July 20, 2010

Ms. Tamira Cohen
Environmental Specialist
Virginia Department of Environmental Quality
Piedmont Regional Office
4949-A Cox Road
Glen Allen, Virginia 23060

ECS Project No.: 03-9739-A

Reference:

Annual Acute Toxicity Testing – 2010

Wet & Dry Weather Outfalls 901 & 001

Doswell Truck Stop

VPDES Permit No. VA0052906

Dear Ms. Cohen:

ECS Mid-Atlantic, LLC is pleased to submit this Annual Acute Toxicity Testing Report for the above referenced site. Pursuant to the requirements of VPDES Permit No. VA0052906, Part D, samples are collected at outfalls 001 and 901, during dry and wet weather conditions respectively, and analyzed for the No Observed Adverse Effect Concentrations (NOAEC) of *Ceriodaphnia dubia* and *Pimephales promelas*. Previously, quarterly test results were required up until the final quarter of 2008. For the remainder of the permit, annual acute toxicity tests are required. The data collected from both the 001-Dry Weather and 901-Wet Weather Outfalls are provided below.

The Wet Weather Sample (Outfall 901) was collected on July 12, 2010 following a rainfall event while the Dry Weather Sample (Outfall 001) was collected on July 13, 2010. A grab sample was collected at each outfall using a dedicated polyethylene bailer. Following retrieval, the collected effluent was placed in laboratory supplied bottleware at wet-ice temperatures and transported under proper chain of custody protocols to Coastal Bioanalysts, Inc. (CBI) in Gloucester, Virginia. Due to the short hold time of the sample, the container was sent to CBI via overnight express delivery the same day as sample collection. Forty-eight (48) hour static acute tests (EPA Method #2001.0) were run using five (5) geometric dilutions of the effluent at 6.5, 13, 25, 50, and 100 percent concentrations of the original sample. A control test was also run using a moderately hard synthetic freshwater made with ASTM Type I deionized water. Four (4) replicates using five (5) organisms each were used for all dilutions to verify repeatability.

Sample results from the five (5) toxicity tests run are provided in Attachments 1 and 2 for Outfalls 901 and 001, respectively. As can be seen from the results, each of the dilutions and replicates resulted in a NOAEC of 100, which indicates no adverse effects were observed in either the C. dubia or P. promelas populations. It follows then that the toxicity tests report a 48-h LC₅₀ greater than 100. The LC₅₀ is defined as the sample concentration that will cause a 50% reduction in survival of the test organism. Thus, since no adverse effects were observed in the 100% sample concentration, the LC₅₀ could not be determined as the effluent was shown to not cause observable acute adverse effects to these test organisms.

Ms. Tamira Cohen
DTS Annual Acute Toxicity Testing – 2010
July 20, 2010
Page 2

Pursuant to the schedule included in the facility's VPDES permit, this is the final Annual Acute Toxicity Report required for this permit cycle. As such, future report submissions, including timelines, will be determined with the upcoming permit renewal.

We appreciate your continued cooperation on this project. Should you have any questions or comments, please feel free to contact us at (804) 353-6333.

Respectfully submitted,

ECS MID-ATLANTIC, LLC

Adam M. Meurer, LEED AP, ISA-CA Senior Environmental Scientist

Marlee A. Parker, REM/CSEM

Environmental Department Manager

W. Lloyd Ward, P.E.

Branch Manager, Vice President

Cc: Regina Mundi-DTS

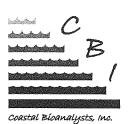
ATTACHMENT 1 ANNUAL TOXICITY TEST RESULTS – OUTFALL 901

Project ID: PRIM1002

Client Sample ID: Doswell Truck Stop Outfall 901

Permit No: VA0052906

Sample Period: 7/12/10 Wet Weather



Report of Analysis: Whole Effluent Toxicity (WET)

Submitted To:	Prepared By:
Mr. David Stoneman	Coastal Bioanalysts, Inc.
Primary Laboratories, Inc.	6400 Enterprise Court
7423 Lee Davis Road	Gloucester, VA 23061
Mechanicsville, VA 23111	(804) 694-8285
	www.coastalbio.com
	Contact: Peter F. De Lisle, Technical Director

Acute Test Results*				
Species-Test Method	48-h LC50	95% C.L.	T.U.Ac	NOAEC
C. dubia EPA 2002.0	>100	N/A	1.00	100
P. promelas EPA 2000.0	>100	N/A	1.00	100

*Note: Details regarding test conduct and data analysis provided in attached bench sheets and printouts as applicable.

AcuteTest Biological Summa	ry Data	Sample Concentration (%)					
Species-Method	Endpoint	Control	6.25	12.5	25.0	50.0	100
C. dubia EPA 2002.0	Survival (%):	100	100	100	100	100	100
P. promelas EPA 2000.0	Survival (%):	100	100	100	95	100	100

Test Information	Start Date/Time	Organism	Hatch/Harvest	Acclimation	Acclimation	Test
Species-Method	End Date/Time	Source	Date/Time	Temp.	Water	Aerated?
C. dubia	7/13/10 1505	CBI	7/12/10 2045		Mod. Hard	
EPA 2002.0	7/15/10 1445	Stock	7/13/10 1030	25° C	Syn. FW	No
P. promelas	7/13/10 1455	CBI	7/1/10 1030		Mod. Hard	
EPA 2000.0	7/15/10 1435	Stock	7/2/10 1000	25° C	Syn. FW	No

Sample/Dilution Water Data	Acute Test			
		Dilution*		
Water Quality Parameter (Units)	Sample	Water		
Arrival Temperature (°C)	1	N/A		
Use Temperature (°C)	26	25		
Conductivity (µS/cm)	422	303		
pH (S.U.)	7.01	7.83		
Dissolved Oxygen (mg/l)	7.2	8.2		
Total Hardness (mg/l as CaCO ₃)	68	84		
Alkalinity (mg/l as CaCO ₃)	48	60		
Total Residual Chlorine (mg/l)	<q.l.< td=""><td>N/A</td></q.l.<>	N/A		
Ammonia (mg/l NH ₃ -N)	<1.0	N/A		

*Dilution water = Moderately hard synthetic freshwater

Sample Aging/Use/Pretreatment										
	Collection	Date(s)/Time(s)	Date(s)/Time(s)							
CBI Sample I.D.	Date/Time	1st Used in Tests	Used in Renewals	Sample Adjustments						
PRIM1002-A	7/12/10 1420	7/13/10 1455, 1505	N/A	N/A						

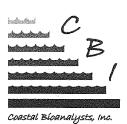


Project ID: PRIM1002

Client Sample ID: Doswell Truck Stop Outfall 901

Permit No: VA0052906

Sample Period: 7/12/10 Wet Weather



Acute Test W	Acute Test Water Quality (Mean/Std. Dev.)											
Test:		C. dubia 2002.0							P. promelas 2000.0			
% Conc:	Cont.	6.25	12.5	25.0	50.0	100	Cont.	6.25	12.5	25.0	50.0	100
Temp.	25	25	25	25	25	25	25	25	25	25	25	25
(°C)	0	0	0	0	0.6	0.6	0	0	0	0	0.6	0.6
D.O.	8.1	8.1	8.0	7.9	7.8	7.5	7.9	7.8	7.4	7.3	7.2	6.8
(mg/l)	0.1	0.2	0.1	0.1	0.2	0.3	0.3	0.4	0.6	0.6	0.6	0.3
pН	7.93	7.88	7.83	7.75	7.61	7.41	7.73	7.69	7.65	7.52	7.36	7.15
(S.U.)	0.05	0.08	0.13	0.21	0.31	0.43	0.15	0.09	0.04	0.04	0.11	0.18

Acute Test QA/QC	Reference To	Stock Cultures			
Species-Method (Ref. Test Date)	Data Source	% Control Survival	48-h LC50	95% C.L./A.L. For LC50	RTT in Control?
C. dubia 2002.0	RTT	100	646	616-678	Yes
(7/1/10-7/3/10)	CC	100	581	501-661	
P. promelas 2000.0	RTT	100	1031	953-1117	Yes
(7/1/10-7/3/10)	CC	99	962	814-1109	

Note: RTT = Reference Toxicant Test, CC = Control Chart

The results of analysis contained within this report relate only to the sample as received in the laboratory. This report shall not be reproduced except in full without written approval from the laboratory. Unless noted below, these test results meet all requirements of NELAC.

APPROVED:

Peter F. De Lisle, Ph.D.

Technical Director

7/20/10 Date

Deviations from, additions to, or exclusions from the test method, non-standard conditions or data qualifiers and, as appropriate, a statement of compliance/non-compliance: **NONE**

GLOSSARY OF TERMS AND ABBREVIATIONS

A.L. (Acceptance Limits): The results of a given reference toxicant test are compared to the control chart mean value ± 2 standard deviations. These limits approximate the 95% probability limits for the "true" reference toxicant value.

Chronic Value (ChrV): The geometric mean of the NOEC and LOEC. Units are same as test concentration units.

C.L. (Confidence Limits): These are the probability limits, based on the data set and statistical model employed, that the "true value" lies within the limits specified. Typically limits are based on 95% or 99% probabilities.

Control chart: A cumulative summary chart of results from QC tests with reference toxicants. The results of a given reference toxicant test are compared to the control chart mean value and 95% Acceptance Limits (A.L.) (mean ± 2 standard deviations).

IC25: The concentration of sample or chemical, calculated from the data set using statistical models, causing a 25% reduction in test organism growth, reproduction, etc. The lower the IC25, the more toxic the chemical or sample. Units are same as test concentration units.

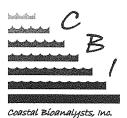


Project ID: PRIM1002

Client Sample ID: Doswell Truck Stop Outfall 901

Permit No: VA0052906

Sample Period: 7/12/10 Wet Weather



LC50: The concentration of sample or chemical, calculated from the data set using statistical models, causing a 50% reduction in test organism survival. The lower the LC50, the more toxic the chemical or sample. Units are same as test concentration units. Note: The LC50 value must always be associated with the duration of exposure. Thus 48-h LC50, 96-h LC50, etc. are calculated.

LOEC: Lowest-observable-effect-concentration. The lowest concentration of sample or chemical in a chronic test dilution series in which the test organisms exhibit a statistically significant reduction in any of the test end points (e.g. growth, survival, reproduction) compared to control organisms. Units are same as test concentration units.

PMSD: Percent Minimum Significant Difference: The minimum difference which can exist between a test treatment and the controls in a particular test and be statistically significant; a measure of test sensitivity. The lower the PMSD the more sensitive the test.

N/A: Not applicable.

N/D: Not determined or measured

NOAEC: No-observable-acute-effect-concentration. The highest concentration of sample or chemical in an acute test dilution series in which the test organisms exhibit no statistically significant reduction in the test end point (e.g. survival) compared to control organisms. Units are same as test concentration units.

NOEC: No-observable-effect-concentration. The highest concentration of sample or chemical in a chronic test dilution series in which the test organisms exhibit no statistically significant reduction in any of the test end points (e.g. growth, survival, reproduction) compared to control organisms. Some regulatory definitions also require that the NOEC be less than the LOEC. Units are same as test concentration units.

Q.L.: Quantitation Limit. Level, concentration, or quantity of a target variable (analyte) that can be reported at a specified degree of confidence.

T.U.: Toxic units. Expresses the relative toxicity of an effluent in such a manner that the larger the toxic unit value the more toxic the effluent. T.U. $_{Ae} = 100/LC50$. T.U. $_{Chr} = 100/NOEC$. A dimensionless unit.



% Effluent	I.D.	Day 0 Live	Day 1 Live	Day 2 Live	Final % Survival	% Effluent	I.D.	Day 0 Live	Day 1 Live	Day 2 Live	Final % Survival							
	C-a	5	5	8-7			3-a	5	5	5								
Control	C-b	5	5	5			3-b	5	5	5	_							
	C-c	5	5	5	700	25.0	3-c	5	5	<	(00							
	C-d	5	5	ک)			3-d	5	5	<u>\$</u> ^								
X.	1-a	5	3	5			4-a	5	5	5-								
1. 3.0	1-b	5	5	5	1.00	671 A	4-b	5	5	5	100							
46.01	1-c	5	5	5	(00)	50, D	4-c	5	5	5	(00							
	1-d	5	5	5										4-d	5	S	5	
	2-a	5	5	5			5-a	5	5	7								
12.5	2-b	5	5	5	100	100	5-b	5	5	5	(00)							
~ ,	2-c	5	5	5	100		5-c	5	5	5								
	2 - đ	5	_5	5			5 - d	5	-5	9-								
						ln	itials:	bja	PB	60								
						Count	Time:	1505	0920	1445	*Test end time							

NOTES:

	Treatment	POPULATION OF THE PROPERTY OF			
Parameter	I.D.	Day 0	Day 1	Day 2	
	С	25	25	25	Species: Ceriodaphnia dubia
Temp.	1	25	25	25	Species. Ceriodaprinia dubia
(°C)	2	25	25	25	Source: CBI stock cultures
	3	25	25	25	Other:
	4	26	25	25	
	5	26	25	25	Brood Date/time start: 0'11210 2013
	С	7.90	7.90	2.44	Brood Date/time start: 07/12/10 2045 Release: Date /time end: 07/13/10 1030
pH	1	7.79	7.90	2.45	Acclimation: Water: Mod. hard syn. FW
(S.U.)	2	7.69	7.83	2.72	
	3	7.51	7.84	2.84	Other
•	4	7.27	7.7/	2.86	Temperature (°C): 25
	5	6.95	7.47	2.81	
	С	8.2	8.1	8.0	Feeding: Prior to test: YCT/Selenastrum During test: Not Fed
D.O.	1	8.2	8.1	2.9	We we to at the 401.0D 40.0D 40.0D 42.
(mg/l) -	2	8.1	8.0	2.9	Illumination: 16L:8D 10-20 uE/m²/s
	3	8.0	7.9	2.4	Test chamber size:30 ml
	4	7.8	7.6	2.4	Solution volume:15 mlml
	5	7.2	7.9	2.8	
And the second s	С	306		240	Number of replicates/treatment: 4
Conduct.	1	315		12 - 4	Initial number of daphnids/replicate: 5
(uS/cm)	2	324			Template number:
	3	341			
	4	371			Set up: Date (Day 0): 07/13/10
	5	433		424	Time water added: 1445
Replicate M	eas.:	s	S	8	Time daphnids added: 1505
Initials: bya AB		CA			
TRC (mg/l) in highest conc. at end of test:		NA	Set up by (initials): by a		
					U

NOTES:

% Effluent	1.D.	Day 0 Live	Day 1 Live	Day 2 Live	Final % Survival	% Effluent	I.D.	Day 0 Live	Day 1 Live	Day 2 Live	Final % Survival
	C-a	5	5	5			3-a	5	5	2	
Control	C-b	5	5	5			3-b	5	5	5	
	C-c	5	5	5	100	25.0	3-c	5	5	5	95
	C-d	5	5	5			3-d	5	4	4	
	1-a	5	5	5			4-a	5	5	5	
و	1-b	5	5	5		د سه	4-b	5	5	5	106
1605	1-c	5	N	5	100	50.0	4-c	5	ڪ	5	(0 0
	1-d	5	5	5			4-d	5	S	5	
	2-a	5	5	5			5-a	5	5	5	
اس دا	2-b	5	S	5-	100	lat.	5-b	5	5	5	۸۲.
2.5	2-c	5	5	5	100	101	5-c	5	5	5	100
	2-d	5	5	5			5-d	5	5	ς <u>-</u>	
						lni	tials:	مرها	PB	(0	
						Count 1	Time:	1455	8915	1435	Test End Time
	Tr	eatment						1			

Day 1

25

25

25

25

25

25

7.67

Day 2

25-

25

25

25

25

25

7.43

Species: Pimephales promelas Source: CBI stock cultures____ Other: Hatch: Date/time start: 07/01/10 1030 Date /time end: 07/02/10 1000 Water: Mod. hard syn. FW Acclimation: Other Temperature (°C): Feeding: Prior to test: Artemia ad libitum During test: Not Fed Illumination: 16L:8D 10-20 uE/m²/s Test chamber size: 400 ml ml Solution volume: 200 ml Initial number of fish/replicate: Set up: Date (Day 0): 07//3/10 Time water added: Time fish added: Set up by (initials):_

TESTI.D. PRIMILICA

-APP-4REP

pН	1	7.79	7.45	7.43						
(S.U.)	2	7.69	7.62	2.403						
	3	7.51	.7.56	7.49						
	4	7.27	7.34	7.48						
	5	6.95	7.20	7.31						
	С	8.2	7.9	2.2						
D.O.	1	8.2	7-7	2.5						
(mg/l)	2	8.1	7.0	2.2						
	3	8,0	4.9	2.0						
	4	7.8	6.8	4.9						
	5	7,2	6.7	4.40						
	C	306		305						
Conduct.	1	315								
(uS/cm)	2	324								
	3	341								
	4	371	444							
	5	433		GGY						
Replicate Me	easured:	A	B	D						
lr	nitials:	laja	PB	CB						
TRC (mg	NA									
Peer Rev. by: <u>CA / PB</u> Date: <u>2/15/1</u>										

Parameter

Temp.

(°C)

I.D.

 $\overline{\mathsf{c}}$

1

2

3

4

5

С

Day 0

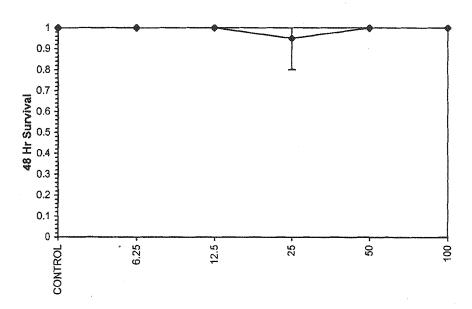
7.90

				Acute Fish Tes	st-48 Hr Survival	
Start Date:	7/13/2010	14:55	Test ID:	PRIM1002	Sample ID:	DOSWELL TRUCK STOP 901
End Date:	7/15/2010	14:35	Lab ID:	CBI	Sample Type:	WW
Sample Date:			Protocol:	EPAA 91-EPA Acute	Test Species:	PP-Pimephales promelas
Comments:						
Conc-%	1	2	3	4		
CONTROL	1.0000	1.0000	1.0000	1.0000		· ·
6.25	1.0000	1.0000	1.0000	1.0000		
12.5	1.0000	1.0000	1.0000	1.0000		
25	1.0000	1.0000	1.0000	0.8000		
50	1.0000	1.0000	1.0000	1.0000		
100	1.0000	1.0000	1.0000	1.0000		

			Tra	Transform: Arcsin Square Root				Rank	1-Tailed	
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	Sum	Critical	
CONTROL	1.0000	1.0000	1.3453	1.3453	1.3453	0.000	4			
6.25	1.0000	1.0000	1.3453	1.3453	1.3453	0.000	4	18.00	10.00	
12.5	1.0000	1.0000	1.3453	1.3453	1.3453	0.000	4	18.00	10.00	
25	0.9500	0.9500	1.2857	1.1071	1.3453	9.261	4	16.00	10.00	
50	1.0000	1.0000	1.3453	1.3453	1.3453	0.000	4	18.00	10.00	
100	1.0000	1.0000	1.3453	1.3453	1.3453	0.000	4	18.00	10.00	

Auxiliary Tests				Statistic	Critical	Skew	Kurt
Shapiro-Wilk's Test indicates nor		0.46508	0.884	-3.0206	13.9892		
Equality of variance cannot be co	onfirmed						
Hypothesis Test (1-tail, 0.05)	NOEC / LOEC	ChV	TU				
Steel's Many-One Rank Test	100 / >100		1				The state of the s
	V						

Dose-Response Plot



skill til från der Ekstelland parlamiske koloningstill han and om er til til Freih Melsen Mille den havdet bled i fræn	IN	ITIAL SAMPLE	CHARACTERIZ	ZATION ¹		Participant Constitution of the Constitution o
Sample Bottle ²	A-1				NOTES:	
Tot. Res. Chlorine (mg/l)	COL					
Hardness (mg/I CaCO ₃)	48					
Alkalinity (mg/l CaCO ₃)	48					
NH ₃ -N (mg/l)	21.0				***	
Color/Appearance ³	CY			-		
Obvious Odor?	No					
Date/Time	2/13/330				4	
Initials	SB			TRC co	prrected for potentia by Mn or Cr with KI	al positive & Na∆sOa
SAN	IPLE PREP	ARATION MEA	SUREMENTS (∆ Na∧3∪ ₂
Sample Bottle ²	AI					
Prep Temperature (°C)	26					
Conductivity (uS/cm)4	422					
D.O. (mg/l) After Warming	7.2					
Aeration Time (min)	-					
Adjusted D.O.						
Final pH (S.U.)	7.01					
Tot. Res. Chlorine (mg/l) ⁵	N.D.					
Sample Filtered (60 um)?	NO					
Date/Time	1/13 1420					
Initials	bia					
	J D	ILUTION WATE	R CHARACTE	RISTICS		
Vat Number		,				
Temperature (°C)	25					The second
Conductivity (uS/cm)	303					
D.O. (mg/l)	8-2					
pH (S.U.)	7.83					
Hardness (mg/l CaCO ₃)	84					
Alkalinity (mg/l CaCO ₃)	40					
Date/Time	21130830					
Initials	UB					
OI = Quantification Limit	NID - Not F	Joto wasin a d/h /a ac	aurad AIA - Nai	Annlianble		

¹Q.L. = Quantification Limit, N.D. = Not Determined/Measured, NA = Not Applicable
²Ninth character of Laboratory Sample I.D. (on chain of custody form) <u>and</u> bottle number in collection series (e.g. "A-2" is sample bottle number 2 from "A" collection). Together with project ID below constitutes entire sample bottle ID.
³C-Clear, O-Opaque, T-Turbid, S-Solids (SI-Slight, M-Moderate, H-Heavy), Y-Yellow, B-Brown, BI-Black, G-Green
⁴Conductivity measured on first use of sample only
⁵Total residual chlorine measured after sample prep only if present in initial sample characterization

Peer Rev by	PB	Date 7/19/10	PROJECT I.D.	PRIMICOL
				(First 8 characters of Laboratory Sample ID)



6400 Enterprise Court, Gloucester, VA 23061 PH: 804-694-8285, FAX: 804-695-1129 www.coastalbio.com

SAMPLE INFORMATION/CHAIN-OF-CUSTODY (FORM ETF2011E Rev. 4/15/09)

Lab Sample ID (Lab Use Only)		12 7	A Y Project ID	C C	- N	A Spi	(00707(
F & OU 173/ INIC/	~~!! A T! ^ !		110,000.10			Op,	WET
CLIENT/FACILITY	A A	1 7 16	<u> </u>	CONTAC		11.	7001
NAME NPDES	Dosnell	[[nek	<u> 2149 </u>	& PHONE	- Williams	JTFALL #	804-353-633
PERMIT NO V	40052			Tue ou vior		RLOCATION	901
SAMPLE CHLORINATED?	N_{\perp}	SAMPLE DECHLORINAT	ED? V		RINE PRESENT USPECIFY DECHL		
TESTS	SPECIES OR EPA METH #				Dubia	ACUTE 🚨	— CHRONIC □
REQUESTED:	SPECIES OR EPA METH #			Ð	erun/45	ACUTE 1	CHRONIC □
OTHER TESTS:							
A SPECIFIC DILUTION PRIOR TESTING, WI	LL BE USED UNI	LESS INDICATED C	HE PERMIT. A C THERWISE. <u>IF II</u>	DEFAULT SERIE N DOUBT PLEA	S OF 100, 50, 25, 1 SE ATTACH A COP	2.5 AND 6.3%, OR PY OF APPLICABL	CONCENTRATIONS USED IN E PERMIT PAGES.
SAMPLE DATE	1.		MPLE TIME		SA	MPLE VOLUME	
7/12/	10		(4/,2				94
COMPOSITES	SAMPLE INF	ORMATION					
SAMPLE START DATE & TIME			SAMPLE END DATE & TIME			AUTOS, TEMP. (AMPLER (°C)
TIME OR FLOW PROPORTIONAL	NUM SUBS	BER SAMPLES		VOL (ml) SUBSAMPLES		TIME INCREA	AFNT
COMPOSITE INFORMATION	SET '	VOLUME		SET VOL			TOTAL
		SAMPLE LES BASED ON FLO	OW (COMPOSITI	FLOW NG "BY HAND").	ATTACH SAMPLE		VOLUME MATION ON SEPARATE SHEET
FIELD MEASU	REMENTS						
DISCHARGE TEMP (°C)	DISCHA pH (S.		MPLE P (°C)	SAMPLE TRC (mg/l)	1	E/TIME 23/00 1835)	INITIALS
27,2%	8.5	9 27	.2°C	-0.1 1/2	7/12/10	14:25	Aarn
MEASUREMENTS N	JUST BE TAKEN	WITHIN 15 MINUTE	S OF SAMPLE O	R LAST SUBSA	MPLE COLLECTION	٧.	
COMMENTS:					1	ø	
10 11	was !	BIC III	I sall in	11/2	/L/M		7/12/12
- 10 000	ME/AFFILIA	ATION SAMPL	ER/ANALYS	it)	(SIG	NATURE)	(BATE)
RE.	LINQUISHED B	Y.	DATE	TIME		RECEN	VED BY
		the state of the s	7/13/10	132		1	· · · · · · · · · · · · · · · · · · ·
	eattologitudiaravuur - "egymenitetti tuonoi		1+10/1V	130	1 / / / /		
SHIPPING ME	THOD: UPS	s FEDE	X HAI	ND DELIVE	RY OT	HER V	
CONDITION O							
SAMPLE ARR	IVAL TEMP	(°C)	ARRIVE	ONICE?	YES N	Ω .	
							C) and shipped. Sample hold time
is 36 h. Additiona	l costs may be	incurred by imp	roper preserva	tion, shipping	or receipt of sa	mples after 3 p.	m. or on weekends and holidays.

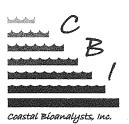
ATTACHMENT 2 ANNUAL TOXICITY TESTS RESULTS – OUTFALL 001

Project ID: PRIM1003

Client Sample ID: Doswell Truck Stop Outfall 001

Permit No: VA0052906

Sample Period: 7/13/10 Dry Weather



Report of Analysis: Whole Effluent Toxicity (WET)

Submitted To:	Prepared By:
Mr. David Stoneman	Coastal Bioanalysts, Inc.
Primary Laboratories, Inc.	6400 Enterprise Court
7423 Lee Davis Road	Gloucester, VA 23061
Mechanicsville, VA 23111	(804) 694-8285
	www.coastalbio.com
	Contact: Peter F. De Lisle, Technical Director

Acute Test Results				
Species-Test Method	48-h LC50	95% C.L.	T.U. _{Ac}	NOAEC
C. dubia EPA 2002.0	>100	N/A	1.00	100
P. promelas EPA 2000.0	>100	N/A	1.00	100

*Note: Details regarding test conduct and data analysis provided in attached bench sheets and printouts as applicable.

AcuteTest Biological Summa			Sample	Concentra	tion (%)		
Species-Method	Endpoint	Control	6.25	12.5	25.0	50.0	100
C. dubia EPA 2002.0	Survival (%):	100	100	100	100	100	100
P. promelas EPA 2000.0	Survival (%):	100	100	100	100	100	100

Test Information	Start Date/Time	Organism	Hatch/Harvest	Acclimation	Acclimation	Test
Species-Method	End Date/Time	Source	Date/Time	Temp.	Water	Aerated?
C. dubia	7/14/10 1615	CBI	7/13/10 1625		Mod. Hard	
EPA 2002.0	7/16/10 1610	Stock	7/14/10 1010	25° C	Syn. FW	No
P. promelas	7/14/10 1555	CBI	7/5/10 1600		Mod. Hard	
EPA 2000.0	7/16/10 1600	Stock	7/6/10 1000	25° C	Syn. FW	No

Sample/Dilution Water Data	Acute Test		
		Dilution*	
Water Quality Parameter (Units)	Sample	Water	
Arrival Temperature (°C)	4	N/A	
Use Temperature (°C)	25	26	
Conductivity (µS/cm)	296	301	
pH (S.U.)	7.36	7.79	
Dissolved Oxygen (mg/l)	8.2	8.2	
Total Hardness (mg/l as CaCO ₃)	. 72	92	
Alkalinity (mg/l as CaCO ₃)	28	59	
Total Residual Chlorine (mg/l)	<q.l.< td=""><td>N/A</td></q.l.<>	N/A	
Ammonia (mg/l NH ₃ -N)	<1.0	N/A	

*Dilution water = Moderately hard synthetic freshwater

Sample Aging/Use	Pretreatment		1.00	
CBI Sample I.D.	Collection Date/Time	Date(s)/Time(s) 1 st Used in Tests	Date(s)/Time(s) Used in Renewals	Sample Adjustments
PRIM1003-A	7/13/10 1325	7/14/10 1555, 1615	N/A	Aerated 2 min

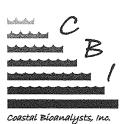


Project ID: PRIM1003

Client Sample ID: Doswell Truck Stop Outfall 001

Permit No: VA0052906

Sample Period: 7/13/10 Dry Weather



Acute Test W			en e												
Test:	C. dubia 2002.0							P.	promelo	as 2000.0)				
% Conc:	Cont.	6.25	12.5	25.0	50.0	100	Cont.	6.25	12.5	25.0	50.0	100			
Temp.	26	26	26	26	25	25	25	25	25	25	25	25			
(°C)	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6			
D.O.	7.9	7.9	7.7	7.4	7.3	7.4	7.6	7.6	7.5	7.3	7.2	7.1			
(mg/l)	0.2	0.2	0.4	0.4	0.8	0.7	0.4	0.5	0.6	0.7	1.0	1.1			
pН	7.87	7.87	7.86	7.81	7.71	7.53	7.76	7.74	7.69	7.63	7.52	7.28			
(S.U.)	0.13	0.10	0.09	0.08	0.10	0.21	0.21	0.20	0.20	0.18	0.15	0.13			

Acute Test QA/QC	Reference To	Reference Toxicant: KCl Units: mg/l Test Organism Source: CBI Stock Cultures							
Species-Method (Ref. Test Date)	Data Source	% Control Survival	48-h LC50	95% C.L./A.L. For LC50	RTT in Control?				
C. dubia 2002.0	RTT	100	646	616-678	Yes				
(7/1/10-7/3/10)	CC	100	581	501-661					
P. promelas 2000.0	RTT	100	1031	953-1117	Yes				
(7/1/10-7/3/10)	CC	99	962	814-1109					

Note: RTT = Reference Toxicant Test, CC = Control Chart

The results of analysis contained within this report relate only to the sample as received in the laboratory. This report shall not be reproduced except in full without written approval from the laboratory. Unless noted below, these test results meet all requirements of NELAC.

APPROVED:

Peter F. De Lisle, Ph.D.

Technical Director

7/20/10 Date

Deviations from, additions to, or exclusions from the test method, non-standard conditions or data qualifiers and, as appropriate, a statement of compliance/non-compliance: **NONE**

GLOSSARY OF TERMS AND ABBREVIATIONS

A.L. (Acceptance Limits): The results of a given reference toxicant test are compared to the control chart mean value ± 2 standard deviations. These limits approximate the 95% probability limits for the "true" reference toxicant value.

Chronic Value (ChrV): The geometric mean of the NOEC and LOEC. Units are same as test concentration units.

C.L. (Confidence Limits): These are the probability limits, based on the data set and statistical model employed, that the "true value" lies within the limits specified. Typically limits are based on 95% or 99% probabilities.

Control chart: A cumulative summary chart of results from QC tests with reference toxicants. The results of a given reference toxicant test are compared to the control chart mean value and 95% Acceptance Limits (A.L.) (mean ± 2 standard deviations).

IC25: The concentration of sample or chemical, calculated from the data set using statistical models, causing a 25% reduction in test organism growth, reproduction, etc. The lower the IC25, the more toxic the chemical or sample. Units are same as test concentration units.

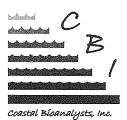


Project ID: PRIM1003

Client Sample ID: Doswell Truck Stop Outfall 001

Permit No: VA0052906

Sample Period: 7/13/10 Dry Weather



LC50: The concentration of sample or chemical, calculated from the data set using statistical models, causing a 50% reduction in test organism survival. The lower the LC50, the more toxic the chemical or sample. Units are same as test concentration units. Note: The LC50 value must always be associated with the duration of exposure. Thus 48-h LC50, 96-h LC50, etc. are calculated.

LOEC: Lowest-observable-effect-concentration. The lowest concentration of sample or chemical in a chronic test dilution series in which the test organisms exhibit a statistically significant reduction in any of the test end points (e.g. growth, survival, reproduction) compared to control organisms. Units are same as test concentration units.

PMSD: Percent Minimum Significant Difference: The minimum difference which can exist between a test treatment and the controls in a particular test and be statistically significant; a measure of test sensitivity. The lower the PMSD the more sensitive the test.

N/A: Not applicable.

N/D: Not determined or measured

NOAEC: No-observable-acute-effect-concentration. The highest concentration of sample or chemical in an acute test dilution series in which the test organisms exhibit no statistically significant reduction in the test end point (e.g. survival) compared to control organisms. Units are same as test concentration units.

NOEC: No-observable-effect-concentration. The highest concentration of sample or chemical in a chronic test dilution series in which the test organisms exhibit no statistically significant reduction in any of the test end points (e.g. growth, survival, reproduction) compared to control organisms. Some regulatory definitions also require that the NOEC be less than the LOEC. Units are same as test concentration units.

Q.L.: Quantitation Limit. Level, concentration, or quantity of a target variable (analyte) that can be reported at a specified degree of confidence.

T.U.: Toxic units. Expresses the relative toxicity of an effluent in such a manner that the larger the toxic unit value the more toxic the effluent. T.U., $A_{c} = 100/LC50$. T.U., $A_{c} = 100/LC50$. T.U., $A_{c} = 100/LC50$. A dimensionless unit.



NOTES:

% Effluent	I.D.	Day 0 Live	Day 1 Live	Day 2 Live	Final % Survival	% Effluent	I.D.	Day 0 Live	Day 1 Live	Day 2 Live	Final % Survival
	C-a	5	5	5			3-a	5	R-	5	
Control	C-b	5	5	5		25.2	3-b	5	5	3	
	С-с	5.	4-	5	100	25.0	3-c	5	5	8	100
	C-d	5	5	3			3-d	5	5	`سر د د	
	1-a	. 5	5	5			4-a	5	9-	5	
100	1-b	5	5	5	100	50.0	4-b	5	5	5	(00)
6.25	1-c	5	5	5	(00)	70.0	4-c	5	5	4	() -
	1-d	5	5	΄δ			4-d	5	5	5	
	2-a	5	(5	5			5-a	5	5	ÉS	
12.5	2-b	5	5	5	100	100	5-b	5	5-	ēÇ.	(00)
12.	2-c	5	5	5	1	,	5-c	5	5-	5	
	2-d	5	4	5			5-d	5	\$ <u> </u>	5	
						lni	itials:	bia	CB	CB	
						Count	Γime:	1615		1411	Test end time

	Treatment	Day 6	D4	2-10	
Parameter	I.D.	Day 0	Day 1	Day 2	
T	_	26	25	26	Species: Ceriodaphnia dubia
Temp.	1	26	25	26	
(°C)	2	26	25	26	Source: CBI stock cultures
Surping Tile	3	26	25	24	Other:
	4	25	25	26	20/12/10
	5	25	25	26	Brood Date/time start: 07/13/10 Release:
	С	7.98	2.73	7 41	Date /time end: 07/14/10
pН	1	7.94	2.75	7.42	Acclimation: Water: Mod. hard syn. FW
(S.U.)	2	7.91	2.25	7.41	
######################################	3	7. 83	7.27	2.85	Other
**************************************	4	7.08	2.43	7.82	Temperature (°C): 25
	5	7.39	2.43	7.77	Feeding: Prior to test: YCT/Selenastrum
	С	8.1.	7.8	2.4	During test: Not Fed
D.O.	1	8.1	2.8	7.8	Illumination: 16L:8D 10-20 uE/m²/s
(mg/l)	2	8.1	2.4	2.LA	
	3	8.1	7.0	2.1	Test chamber size:30 ml
	4	8.2	20-5	2.0	Solution volume: _/15 mlml
NOTE	5	8.2	La 9	7.1	
	С	307		248	Number of replicates/treatment: 4
Conduct.	1	302			Initial number of daphnids/replicate: 5
(uS/cm)	2	301	-		Template number: 13
	3	300			
	4	298			Set up: Date (Day 0): 07/14/10
	5	296		300	Time water added: 1545
Replicate M	leas.:	S	S	B	Time daphnids added: 1615
Initials: laid GB LB				LO	, ,
TRC (mg	g/l) in highest o	conc. at@nd of	test:	110	Set up by (initials): 64a

Peer Rev.	by	: PS	Date: 7	191	16
	-				

1625

NOTES:

% Effluent	i.D.	Day 0 Live	Day 1 Live	Day 2 Live	Final % Survival	% Effluent	I.D.	Day 0 Live	Day 1 Live	Day 2 Live	Final % Survival
	C-a	5	5	<			3-a	5	5	5	
Control	C-b	5	5	~		100	3-b	5	5	5	
	C-c	5	5	5	(00)	25.0	3-с	5	5	5	106
	C-d	5	5	5			3-d	5	(5	_
	1-a	5	5	9			4-a	5	5	5	
. 25	1-b	5	5	5		(a)	4-b	5	5	5	
4.25	1-c	5	5),	5	100	50.0	4-c	5	5-	5	(00
	1-d	5	~	5			4-d	5	5	5	
	2-a	5	5	5			5-a	5	5~	5	
12.5	2 - b	5	5	5	į OO	100	5-b	5	5	5	100
	2-c	5	5	5	(0)	100	5-c	5	5^	5.	
	2-d	5	5	5			5-d	5	5	(
						lni	tials:	bja	CB	CB	
						Count 1	ſime:	7	1	(600	Test End

	T		i	1
Parameter	Treatment I.D.	Day 0	Day 1	Day 2
	С	26	25	25
Temp.	1	20	25	25
(°C)	2	26	25	25
	3	26	25	25
	4	25	25	25
	5	25	25	25
	С	7.98	2.56	2.75
pН	1	7.94	2.55	2.24
(S.U.)	2	7.91	2.52	7.65
	3	7.83	2.42	7.59
	4	7.68	2.34	7.50
	5	7.39	2.13	232
	С	8.1	2.3	2.5
D.O.	1	8.1	2.2	2.9
(mg/i)	2	8.1	2.0	2.4
	3	8.1	4.7	2.2
	4	8.2	4.3	2-1
	5	8.2	6.0	2.0
	С	307		298
Conduct.	1	302		
(uS/cm)	2	301		
	3	300		
	4	298		
	5	296	E e	296
Replicate Me		B	A	C
1	nitials:	bya	CB	CB
TRC (mg	g/I) in highest o	onc. at end of	test:	NA

Peer Rev. by:_

Date: 7/19/10

Species:	: Pimephales promelas						
Source:	CBI stock culturest						
	Other:						
Hatch:	Date/time start: 07/05/10 1600						
	Date/time start: <u>() 7/05/10 1600</u> Date /time end: <u>0 7/06 (10 1000</u>						
Acclimat	1/						
	Other						
	Temperature (°C): 25						
Feeding: Prior to test: Artemia ad libitum During test: Not Fed							
Illuminat	tion: 16L:8D 10-20 uE/m²/s						
Test cha	mber size:400 mlml						
Solution	volume:mi						
Initial nu	mber of fish/replicate:						
Set up:	Date (Day 0): 07/14/10						
	Time water added: 1545						
	Time fish added: 1555						
	Set up by (initials):						

TEST I.D. PRIM 1003

	IN	ITIAL SAN	IPLE CHAP	RACTERIZA	ATION	Secretary and the second secon			
Sample Bottle ²	A-1					NOTES:	27702		
Tot. Res. Chlorine (mg/l)	LQL				_				
Hardness (mg/I CaCO ₃)	72				1				
Alkalinity (mg/l CaCO ₃)	२४								
NH ₃ -N (mg/l)	41.0								
Color/Appearance ³	CBSSI								
Obvious Odor?	NO								
Date/Time	1/4 1500								
Initials	bja		-		TRC corrected for potential positive				
SAMPLE PREPARATION MEASUREMENTS (100% concentration)							aASU ₂		
Sample Bottle ²	A-1	7.101.101.	THE PROOFE		1				
Prep Temperature (°C)	25								
Conductivity (uS/cm)⁴	296								
D.O. (mg/l) After Warming	8.9								
Aeration Time (min)	2.0								
Adjusted D.O.	8.2								
Final pH (S.U.)	7.36								
Tot. Res. Chlorine (mg/l)5	ND.								
Sample Filtered (60 um)?									
Date/Time	7/14 1530							WASHINGTON TO THE PROPERTY OF	
Initials	bsa								
	Q U	ILUTION V	VATER CH	ARACTERI	STICS		A CONTRACTOR OF THE PARTY OF TH	THE RESERVE THE PROPERTY OF THE PARTY OF THE	
Vat Number	2								
Temperature (°C)	26								
Conductivity (uS/cm)	301								
D.O. (mg/l)	8,2								
pH (S.U.)	7.79								
Hardness (mg/l CaCO ₃)	92								
Alkalinity (mg/l CaCO ₃)	59								
Date/Time	7/14 0840	·							
Initials	PB			`					

Peer Rev by (19)	Date 2/14/11)	PROJECT I.D	PRIM 1003
			(First 8 characters of Laboratory Sample ID)

Q.L. = Quantification Limit, N.D. = Not Determined/Measured, NA = Not Applicable

²Q.L. = Quantification Limit, N.D. = Not Determined/Measured, NA = Not Applicable
²Ninth character of Laboratory Sample I.D. (on chain of custody form) <u>and</u> bottle number in collection series (e.g. "A-2" is sample bottle number 2 from "A" collection). Together with project ID below constitutes entire sample bottle ID.
³C-Clear, O-Opaque, T-Turbid, S-Solids (SI-Slight, M-Moderate, H-Heavy), Y-Yellow, B-Brown, BI-Black, G-Green
⁴Conductivity measured on first use of sample only
⁵Total residual chlorine measured after sample prep only if present in initial sample characterization



6400 Enterprise Court, Gloucester, VA 23061 PH: 804-694-8285, FAX: 804-695-1129

www.coastalbio.com

SAMPLE INFORMATION/CHAIN-OF-CUSTODY (FORM ETF2011E Rev. 4/15/09)										
Lab Sample II (Lab Use Only)		K	<u></u>	A Project	Y Y	D C	3	- A		100708
FACILITY INFO	ORMATION									DRY
CLIENT/FACILITY NAME	Doswel	170	vek	Stop)	CONTACT & PHONE		M	Wred S	304-353-6 888
NPDES PERMIT NO V	A OUS	-216	06					OUTFA OR LO	LL #	001
SAMPLE CHLORINATED?	N	SAMPL	E ORINATE	D? /	J				NARRIVAL AT	
TESTS	SPECIES OF EPA METH #					£ 1	Missia		ACUTE D	CHRONIC 🗆
REQUESTED:	SPECIES OF EPA METH #					R	oths /	٠ ۶ ۶	ACUTE_D	CHRONIC □
OTHER TESTS:	***************************************						/			
A SPECIFIC DILUTI PRIOR TESTING, W	ON SERIES MAY ILL BE USED UN	BE REQUI	RED IN TH	IE PERMIT HERWISE	. A DEF	AULT SERIES OUBT PLEAS	OF 100, 50, EATTACH A	25, 12.5 AI COPY OF	ND 6.3%, OR CO APPLICABLE I	ONCENTRATIONS USED IN PERMIT PAGES.
GRAB SAMPL	E INFORM	ATION								
SAMPLE DATE	9		SAMI	PLE TIME				SAMPL	EVOLUME 991	
COMPOSITE S	SAMPLE IN	FORMA	TION	<u></u>					7	
SAMPLE START DATE & TIME				SAMPLE DATE &		THE STATE OF THE S			AUTOSAM TEMP. (°C	
TIME OR FLOW PROPORTIONAL		IBER SAMPLES	S			L (ml) BSAMPLES			TIME INCREME	NT
COMPOSITE INFORMATION		VOLUME SAMPLE		SET VOLUME FLOW			-	TC	DTAL DLUME	
		LES BASE	D ON FLOV	W (COMPO	OSITING	"BY HAND") A	TTACH SAME	PLE AND F	FLOW INFORMA	ATION ON SEPARATE SHEET
DISCHARGE	DISCH	ARGE	SAME		SA	AMPLE		DATE/TII	ME	INITIALS
TEMP (°C)	pH (S	.U.)	TEMP	(°C)		C (mg/l)	(e.g.	02/23/00		
MEASUREMENTS N	JUST BE TAKEN	WITHIN 15	28.	OF SAMP	LE OR L	1 1/2	7/(3/	TION.	13,30	AMM
COMMENTS:										
n() 1	1/			.4. 2.11		a	13/1			- 1-1
(PRINTED NA	ME/AFFILIA	EC) ATION S	AMPLE	R/ANA	nA (uc e	(5	GIGNAT	URF)	
RE	LINQUISHED E	зÝ	J	DA	ſΈ	TIME			RECEIVE	D RY
				7/14		1445			7	7
				419	ЩО	1973		were	ggone	elimen.
SHIDDING ME	CHIPPING METHOD, HOS FEDEV V HAND DELVEDV									
SHIPPING METHOD: UPS FEDEX_ X HAND DELIVERY OTHER										
	SAMPLE ARRIVAL TEMP: (°C) ARRIVED ON ICE? YES X NO									
DAIVIPI P ARK	WINIMI IMUI	- (()	- 1	AKKI	VHI)(11 (1 1 1 Y	⊢ > X	N()		

NOTE: It is the responsibility of the sampler to insure that samples are properly collected, preserved (>0-6° C) and shipped. Sample hold time is 36 h. Additional costs may be incurred by improper preservation, shipping or receipt of samples after 3 p.m. or on weekends and holidays.



ECS MID-ATLANTIC, LLC

"Setting the Standard for Service"

Geotechnical • Construction Materials • Environmental • Facilities

July 29, 2009

Ms. Tamira Cohen Environmental Specialist Virginia Department of Environmental Quality Piedmont Regional Office 4949-A Cox Road Glen Allen, Virginia 23060

RECEIVED AUG 0 4 2009 PRO

ECS Project No.: 03-9739-A

Reference: Annual Acute Toxicity Testing – 2009 – Wet Weather Outfall 901

Doswell All American Travel Plaza VPDES Permit No. VA0052906

Dear Ms. Cohen:

ECS Mid-Atlantic, LLC is pleased to submit this Annual Acute Toxicity Testing Report for the above referenced site. Pursuant to the requirements of VPDES Permit No. VA0052906, Part D, samples are collected at outfalls 001 and 901, during dry and wet weather conditions respectively, and analyzed for the No Observed Adverse Effect Concentrations (NOAEC) of *Ceriodaphnia dubia* and *Pimephales promelas*. Previously, quarterly test results were required up until the final quarter of 2008. For the remainder of the permit, annual acute toxicity tests are required with data submission in July of each subsequent permit year. The results of the annual toxicity tests for the 001-Dry Weather Outfall for 2009 were previously submitted under separate cover. The data collected from the 901-Wet Weather Outfall is provided below.

The Wet Weather Sample (Outfall 901) was collected on July 21, 2009. A grab sample was collected using a dedicated polyethylene bailer at the outfall discharge location. Following retrieval, the collected effluent was placed in laboratory supplied bottleware at wet-ice temperatures and transported under proper chain of custody protocols to Coastal Bioanalysts, Inc. (CBI) in Gloucester, Virginia. Due to the short hold time of the sample, the container was sent to CBI via overnight express delivery the same day as sample collection. Forty-eight (48) hour static acute tests (EPA Method #2001.0) were run using five (5) geometric dilutions of the effluent at 6.5, 13, 25, 50, and 100 percent concentrations of the original sample. A control test was also run using a moderately hard synthetic freshwater made with ASTM Type I deionized water. Four (4) replicates using five (5) organisms each were used for all dilutions to verify repeatability.

Sample results from the five (5) toxicity tests run are provided in Attachment 1. As can be seen from the results, each of the dilutions and replicates resulted in a NOAEC of 100, which indicates no adverse effects were observed in either the C. dubia or P. promelas populations. It follows then that the toxicity tests report a 48-h LC₅₀ greater than 100. The LC₅₀ is defined as the sample concentration that will cause a 50% reduction in survival of the test organism. Thus, since no adverse effects were observed in the 100% sample concentration, the LC₅₀ could not be determined as the

Ms. Tamira Cohen Environmental Specialist Virginia Department of Environmental Quality Piedmont Regional Office 4949-A Cox Road Glen Allen, Virginia 23060

ECS Project No.: 03-9739-A

Reference: Annual Acute Toxicity Testing – 2009 – Wet Weather Outfall 901

Doswell All American Travel Plaza VPDES Permit No. VA0052906

Dear Ms. Cohen:

ECS Mid-Atlantic, LLC is pleased to submit this Annual Acute Toxicity Testing Report for the above referenced site. Pursuant to the requirements of VPDES Permit No. VA0052906, Part D, samples are collected at outfalls 001 and 901, during dry and wet weather conditions respectively, and analyzed for the No Observed Adverse Effect Concentrations (NOAEC) of *Ceriodaphnia dubia* and *Pimephales promelas*. Previously, quarterly test results were required up until the final quarter of 2008. For the remainder of the permit, annual acute toxicity tests are required with data submission in July of each subsequent permit year. The results of the annual toxicity tests for the 001-Dry Weather Outfall for 2009 were previously submitted under separate cover. The data collected from the 901-Wet Weather Outfall is provided below.

The Wet Weather Sample (Outfall 901) was collected on July 21, 2009. A grab sample was collected using a dedicated polyethylene bailer at the outfall discharge location. Following retrieval, the collected effluent was placed in laboratory supplied bottleware at wet-ice temperatures and transported under proper chain of custody protocols to Coastal Bioanalysts, Inc. (CBI) in Gloucester, Virginia. Due to the short hold time of the sample, the container was sent to CBI via overnight express delivery the same day as sample collection. Forty-eight (48) hour static acute tests (EPA Method #2001.0) were run using five (5) geometric dilutions of the effluent at 6.5, 13, 25, 50, and 100 percent concentrations of the original sample. A control test was also run using a moderately hard synthetic freshwater made with ASTM Type I deionized water. Four (4) replicates using five (5) organisms each were used for all dilutions to verify repeatability.

Sample results from the five (5) toxicity tests run are provided in Attachment 1. As can be seen from the results, each of the dilutions and replicates resulted in a NOAEC of 100, which indicates no adverse effects were observed in either the C. dubia or P. promelas populations. It follows then that the toxicity tests report a 48-h LC₅₀ greater than 100. The LC₅₀ is defined as the sample concentration that will cause a 50% reduction in survival of the test organism. Thus, since no adverse effects were observed in the 100% sample concentration, the LC₅₀ could not be determined as the

Ms. Tamira Cohen
DAATP Annual Acute Toxicity Testing – 2009
July 29, 2009
Page 2

effluent was shown to not cause observable acute adverse effects to these test organisms.

Pursuant to the Written Response to Warning Letter #W2008-04-P-1003 issued by your office on May 7, 2008, the next Acute Toxicity Test Report is due on July 10, 2010, as annual reporting is required for the remainder of the permit. The July 2010 report will include test results for both Wet and Dry Weather Outfall (001 and 901) effluent collected between July 2009 and June 2010.

We appreciate your continued cooperation on this project. Should you have any questions or comments, please feel free to contact us at (804) 353-6333.

Respectfully submitted,

ECS MID-ATLANTIC, LLC

Adam M. Meurer, LEED AP, ISA-CA Senior Environmental Scientist

Marlee A. Parker

Environmental Department Manager

W. Lloyd Ward, P.E.

Branch Manager, Vice President

Cc: Regina Mundi-DTS

Allison Dunaway - DEQ-PRO

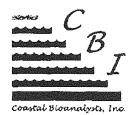
ATTACHMENT 1 ANNUAL TOXICITY TEST RESULTS

Project ID: PRIM0902

Client Sample ID: Doswell Truck Stop Outfall 001

Permit No: VA0052906

Sample Period: 7/21/09 Wet Weather



Report of Analysis: Whole Effluent Toxicity (WET)

Submitted To:	Prepared By:
Mr. David Stoneman	Coastal Bioanalysts, Inc.
Primary Laboratories, Inc.	6400 Enterprise Court
7423 Lee Davis Road	Gloucester, VA 23061
Mechanicsville, VA 23111	(804) 694-8285
	www.coastalbio.com
	Contact: Peter F. De Lisle, Technical Director

Acute Test Results	A Commence of the Commence of	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)		Ballion , Karati
Species-Test Method	48-h LC50	95% C.L.	T.U.Ac	NOAEC
C. dubia EPA 2002.0	>100	N/A	1.00	100
P. promelas EPA 2000.0	>100	N/A	1.00	100

Note: Details regarding test conduct and data analysis provided in attached bench sheets and printouts as applicable.

AcuteTest Biological Summar			Sample	Concentra	tion (%)		
Species-Method	Endpoint	Control	6.25_	12.5	25	50	100
C. dubia EPA 2002.0	Survival (%):	100	100	100	100	100	100
P. promelas EPA 2000.0	Survival (%):	100	100	100	100	100	100

Test-Information	Start Date/Time	Organism	Hatch/Harvest	Acclimation	Acclimation	Test
Species-Method	End Date/Time	Source	Date/Time	Temp.	Water	Aerated?
C. dubia	7/22/09 1415	CBI	7/21/09 1630		Mod. Hard	300000
EPA 2002.0	7/24/09 1415	Stock	7/22/09 0900	25° C	Syn. FW	No
P. promelas	7/22/09 1420	CBI	7/18/09 1500		Mod. Hard	
EPA 2000.0	7/24/09 1420	Stock	7/19/09 1100	25° C	Syn. FW	No

Sample/Dilution Water Data	Acut	e Test
		Dilution*
Water Quality Parameter (Units)	Sample	Water
Arrival Temperature (°C)	6	N/A
Use Temperature (°C)	25	25
Conductivity (µS/cm)	301	298
pH (S.U.)	7.13	7.73
Dissolved Oxygen (mg/l)	6.5	8.2
Total Hardness (mg/l as CaCO ₃)	68	- 98
Alkalinity (mg/l as CaCO ₃)	44	59
Total Residual Chlorine (mg/l)	<q.l.< td=""><td>N/A</td></q.l.<>	N/A
Ammonia (mg/l NH ₃ -N)	<1.0	N/A

Dilution water = Moderately hard synthetic freshwater made with deionized water

Sample Aging/Use,	Pretreatment.			
CBI Sample I.D.	Collection Date/Time	Date(s)/Time(s) 1st Used in Tests	Date(s)/Time(s) Used in Renewals	Sample Adjustments
PRIM0902-A	7/21/09 1006	7/22/09 1415, 1420	N/A	Aerated 2.5 min

Page 1 of 2 Report Pages
Total No. Printouts/Bench Sheets Attached: 4

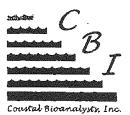
EPA Laboratory ID: VA01116

Project ID: PRIM0902

Client Sample ID: Doswell Truck Stop Outfall 001

Permit No: VA0052906

Sample Period: 7/21/09 Wet Weather



Test:		C. dubia 2002.0					P. promelas 2000.0					
% Conc:	Cont.	6.25	12.5	25	50	100	Cont.	6.25	12.5	25	50	100
Temp.	25	25	25	25	25	25	25	25	25	25	25	25
(°C)	0	0	0	0	0	0	0	0	0	0	0	0
D.O.	8.0	7.9	7.7	7.5	7.3	7.0	7.7	7.6	7.3	7.1	6.8	6.2
(mg/l)	0.2	0.3	0.3	0.3	0.3	0.3	0.5	0.6	0.7	0.6	0.7	0.4
pН	8.00	7.95	7.91	7.82	7.69	7.41	7.75	7.69	7.63	7.56	7.42	7.18
(S.U.)	0.05	0.06	0.10	0.11	0.19	0.34	0.18	0.16	0.15	0.12	0.06	0.13

Acute Test QA/QC	Reference To	xicant: KCl, Unit	s: mg/l Test O	rganism Source: CBI	Stock Cultures
Species-Method (Ref. Test Date)	Data Source	% Control Survival	48-h LC50	95% C.L./A.L. For LC50	RTT in Control?
C. dubia 2002.0	RTT	100	570	527-617	Yes
(7/6/09-7/8/09)	CC	100	562	487-636	
P. promelas 2000.0	RTT	100	915	841-988	Yes
(7/7/09-7/9/09)	CC	99	930	799-1060	Bloom

Note: RTT = Reference Toxicant Test, CC = Control Chart

The results of analysis contained within this report relate only to the sample as received in the laboratory. This report shall not be reproduced except in full without written approval from the laboratory.

APPROVED:

Peter F. De Lisle, Ph.D. Technical Director

7/25/05 Date

GLOSSARY OF TERMS AND ABBREVIATIONS

A.L. (Acceptance Limits): The results of a given reference toxicant test are compared to the control chart mean value ± 2 standard deviations. These limits approximate the 95% probability limits for the "true" reference toxicant value.

C.L. (Confidence Limits): These are the probability limits, based on the data set and statistical model employed, that the "true value" lies within the limits specified. Typically limits are based on 95% or 99% probabilities.

Control chart: A cumulative summary chart of results from QC tests with reference toxicants. The results of a given reference toxicant test are compared to the control chart mean value and 95% Acceptance Limits (A.L.) (mean ± 2 standard deviations).

LC50: The concentration of sample or chemical, calculated from the data set using statistical models, causing a 50% reduction in test organism survival. The lower the LC50, the more toxic the chemical or sample. Units are same as test concentration units. Note: The LC50 value must always be associated with the duration of exposure. Thus 48-h LC50, 96-h LC50, etc. are calculated.

N/A: Not applicable. N/D: Not determined or measured.

NOAEC: No-observable-acute-effect-concentration. The highest concentration of sample or chemical in an acute test dilution series in which the test organisms exhibit no statistically significant reduction in the test end point (e.g. survival) compared to control organisms. Units are same as test concentration units.

Q.L.: Quantitation Limit. Level, concentration, or quantity of a target variable (analyte) that can be reported at a specified degree of confidence.

T.U.: Toxic units. Expresses the relative toxicity of an effluent in such a manner that the larger the toxic unit value the more toxic the effluent. T.U._{Ac} = 100/LC50. T.U._{Cut} = 100/NOEC. A dimensionless unit.

Page 2 of 2 Report Pages
Total No. Printouts/Bench Sheets Attached: 4

EPA Laboratory ID: VA01116

Peer Rev. by: 600 PB

RIODAPHNI	4 DUBI	4 STATIC	ACUTE	WET	TEST
(D)	FORM	ETF10511)		

% Effluent	I.D.	Day O Live	Day 1 Live	Day 2 Live	Final % Survival	% Effluent	I.D.	Day 0 Live	Day 1 Live	Day 2 Live	Final % Survival		
	С-а	.5	5	5			3-a	5	5	:5			
Control	С-ь	S	5	5	100		3-b	.5	5	5			
	· C-c	\$	5	5	100	35	3-c	5	5	5	100		
	C-q	5	5	5	ì		3-d	Š :.	5				
	1-a	5.	5	5			4-a	5	5	5			
	1-b	ς	9	5		\sim	4-b	S	5	5			
10.35	1-c	5	5	5	100	100	100	50	4-c	5	5	5	100
	1-d	S	5	5					4-d	5	5	5	
	2-a	5	Ś	5			5-a	5	5	5	-		
ا سر و ا	2-b	5	5	5	(00	100	5-b	ς	5	5	100		
12.5	2-c	5	5	5	100		5-c	5	5	5	100		
	2-d	5	5	5			5-d	S	5	5			
ACTIVISM AND ADDRESS OF THE PARTY OF THE PAR			444			mi	tials:	43	PB	QB			
						Count T	lme:	1415	OP 55	1415	Test end time		

NOTES:

	Treatment				
Parameter	I.D.	Day 0	Day 1	Day 2	
Temp.	<u> </u>	182	75	93	Species: Ceriodaphnia dubia
(°C)	2	35	75	25	Source: CBI stock cultures
. (0)	3	25	25	23	Source: Obi stock chituies v
	4	25	25	132	Other:
	5	135	25	05	Brood Date/time start: 2/27/19 /470
		25	ಎડ	25	Poloseo.
	С	2.45	8.04	8.00	Pate /time end: 2/23/19 09 01
pН	1	2.88	8.00	2.98	Acclimation: Water: Mod. hard syn. FW
(S.U.)	2	2.80	7.99	2.46	-
	3	7.70	7.85	2.41	Other
	4	2.48	7-76	7.83	Temperature (°C): 25
1	5	2.03	7.55	7.46	'
	C	8.ఎ	8.0	2.4	Feeding: Prior to test: YCT/Selenestrum During test: Not Fed
D.O.	1	8.2	7.6	2.8	
(mg/l)	2	8.1	7.5	2.1	Illumination: 16L:8D 10-20 uE/m²/s
ŀ	3	2.8	7.3	2.5	Test chamber size:30 ml
}	4	2.6	7.1	2.3	Solution volume:/_ 15 mi mi
}	5	4.6	7./	2.2	Solution Volumem
	c	- CATALON CONTRACTOR C	7./	THE RESERVE THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TRANSPORT OF THE PERSON NAMED IN COLUMN TRANSPORT IN COLUMN TRANS	Number of replicates/treatment: 4
Conduct.		303		000	initial number of daphnids/replicate: 5
(uS/cm)		304			
(40,011)	3	363			Template number:
 -		342			Set up: Date (Day 0): 2/22/09
L		302			
	5	301		299	Time water added: / You
Replicate Me			C	Time daphnids added: 1415	
lni	tials:	CB.	PB	Gn	
TRC (mg/l) in highest co	onc. at end of	test:	M	Set up by (Initials): <u>UB</u>
***************************************				لبسينكنا	

Date: 7/24/19 TEST I.D. FIT JM 1902

Day Day Day Day Final % 2 0 0 Final % % 1 % Survival Effluent 1.0. Live Effluent I.D. Live Live Live Survival Live Live 3-a ら 3-b 5 Control C-b 5 100 3-c 100 C-c 2 25 3-d C-d 5 4-a 5 5 4-b 1-0 4.35 50 100 1-c 4-c 5 (00 4-d 1-d 5 5 2-a 5-a 5 5-b 2-b 5 Ź 100 106 5-c 10.5 2-c 8 14 5 5 2-d 5-d 5 5 5 Initials: PB CB GØ. Count Time: *Test 140x End Time 0950

NOTES:

06.9@ 1600

	Treatment							
Parameter	I.D.	Day 0	Day 1	Day 2				
	C	25	75	25				
Temp.	1	25	75	25				
(°C)	2	35	25	25				
	3	25	75	25				
	4	25	75	25				
	5	25	25	24				
	С	2.95	7.59	2.22				
pН	1	2.88	7.59	2.40				
(S.U.)	2	2.80	7.55	254				
	3	2.20	7.49	2.50				
	4	2.48	7.37	2.42				
	5	2.03	7.28	7.22				
	С	8.3	77.7	7.3				
D.O.	1	8.3	7.5	2.1				
(mg/I)	2	8.1	7.0	4.9				
	3	2.8	4.8	4,6				
	4	2.6	6.6	4.3				
	5	6,60	6.2	5-8				
	¢	303		304				
Conduct.	1	304						
(uS/cm)	2	303		Signatur St				
	3	303		7.000 P				
Ì	4	302						
ľ	5	30)		309				
Replicate Me	asured:	3	A	シ				
. In	itials:	CA	PB	CB				
TRC (mg	TRC (mg/l) in highest conc. at end of test:							

Peer Rev. by: Lol 13

Date 7124144

	Species: Pimephales promeias
	Source: CBI stock cultures
_	Other:
-	Hatch: Date/time start: 2/15/04 (506
	Date /time end: 2//4/04 //(\).
-	Acclimation: Water: Mod. hard syn. FW
-	Other
7	Temperature (°C): 25
	Feeding: Prior to test: Artemia ad libitum During test: Not Fed
	Illumination: 16L:8D 10-20 uE/m²/s
ahonomoho	Test chamber size:400 mi mi
-	Solution volume:
STATE	Initial number of fish/replicate: 5
Toposta and American	Set up: Date (Day 0): 2/00)(19
deres extended in the second	Time water added: / 서시스
de la	Time fish added: 1420
Contractive Contraction	Set up by (initials): <u>((</u>)

TEST I.D. PHITMS902

COASTAL BIOANALYSTS, INC EFFECTIVE DATE: 2/1/09

And the second s		NITIAL SA	MPLE CHA	ARACTERI	ZATION1				
Sample Bottle ²	19-)					NOTES:			
Tot. Res. Chlorine (mg/l)				-	T Ochl	Deplorar DARTANAASON			
Hardness (mg/l CaCO₃)	48				בשות	exed m	1KTW,	Nadson	
Alkalinity (mg/l CaCO ₃)	144								
NH ₃ -N (mg/l)	41.0						•	•	
Color/Appearance ³	0655.0								
Obvious Odor?	ND								
Date/Time	2122/44	V							
Initials	UB						george besteven de france i mariego (george seguino).		
SA	MPLE PRE	PARATIO	N MEASUR	EMENTS (100% concer	tration)			
Sample Bottle ²	A-1								
Prep Temperature (°C)	25	· ·							
Conductivity (uS/cm)4	301								
D.O. (mg/l) After Warming	2.3								
Aeration Time (min)	2.5								
Adjusted D.O.	4.5								
Final pH (S.U.)	7.13								
Tot. Res. Chlorine (mg/i)5	N.0					leiketko-r-art-taina-tran u			
Sample Filtered (60 um)?	NO			· ·		,			
Date/Time	2122 (355								
Initials	LM	u			·				
	D	ILUTION \	NATER CH	ARACTER	ISTICS	parameter of the state of the s			
Vat Number									
Temperature (°C)	25			-					
Conductivity (uS/cm)	298								
D.O. (mg/l)	8.2					manyons, autorial sale a g	**************************************		
pH (S.U.)	2.23								
Hardness (mg/l CaCO₃)	98							,	
Alkalinity (mg/l CaCO ₃)	579								
Date/Time	218701830						- Captain and Captain		
Initials	(g)								

Peer Rev by	ا ا	Date 7/2-7/09	PROJECT I.D. PRZNA902
· · · · · · · · · · · · · · · · · · ·			(First 8 characters of Laboratory Sample ID)

¹Q.L. = Quantification Limit, N.D. = Not Determined/Measured, NA = Not Applicable

²Ninth character of Laboratory Sample I.D. (on chain of custody form) and bottle number in collection series (e.g. "A-2" is sample bottle number 2 from "A" collection). Together with project ID below constitutes entire sample bottle ID.

³C-Clear, O-Opaque, T-Turbid, S-Solids (SI-Slight, M-Moderate, H-Heavy), Y-Yellow, B-Brown, BI-Black, G-Green

⁴Conductivity measured on first use of sample only

⁵Total residual chlorine measured after sample prep only if present in initial sample characterization

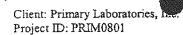


6400 Enterprise Court, Gloucester, VA 23061 PH: 804-694-8285, FAX: 804-695-1129 www.coastalbio.com

SAMPLE INFORMATION/CHAIN-OF-CUSTODY (FORM ETF2011E Rev. 4/15/09)

I ah Cumnia l	n F					
Lab Sample I (Lab Use Only	3 4 1	RIIM		3 2 6	7	**
	A	A A A Proj	ect ID	N N	A A	
FACILITY INF	ORMATION				1	VET
CLIENT/FACILIT	deno.		CONTAC & PHON	- 0 0 mm mm 1 0	meure	
NPDES		muck ston	ρ <u>Γανγοι</u>	OUT	<u>853.633</u> FALL #	3
PERMIT NO SAMPLE	VACOS	2900 AMPLE	I IF CHLO	OR I	OCATION CONTROL AT	TAB DOES
CHLOR! TED?	1			SPECIFY DECHLO		
TESTS	EPA METH #		. (intia	ACUTE 12	CHRONIC 🗆
REQUESTED:	SPECIES OR EPA METH#		Ç	P. prome /as	ACUTE 🗵	CHRONIC [
OTHER TESTS:	gh 	erre erres sentimente de description de la langua en estado de la description de la langua en estado de la del		Para		THE RESERVE THE PROPERTY OF TH
A eneciety butter	ION SERIES MAY BE B	EQUIRED IN THE PERMI	T A DESAULT CEDIE	000 (00 00 00 00 10 0	AND 6 20 OD CON	CENTRATIONS HOPE HI
PRIOR TESTING, W	ILL BE USED UNLESS	INDICATED OTHERWISE	E. IE IN DOUBT PLEAS	SE ATTACH A COPY	OF APPLICABLE PE	RMIT PAGES.
	E INFORMATIC					
SAMPLE DATE		SAMPLE TIN		SAM	LE VOLUME	00
			A ANTAON		th despri	/ Y
SAMPLE START	SAMPLE INFOR	MATION SAMPL	E END	**************************************	AUTOSAME	I FR ·
DATE & TURE		DATE &			TEMP. (°C)	
TIME OF LOW PROPOSE CNAL	NUMBER SUBSAMI		VOL (ml) SUBSAMPLES	3	TIME INCREMEN	
TIME OF LOW	SUBSAMI SET VOLI	PLES	VOL (ml) SUBSAMPLES SET VOL		TIME INCREMEN TOT	T <u>'</u>
TIME OF LOW PROPOSITIONAL COMPOSITIE INFORMATION	SUBSAMI SET VOLI SUBSAMI	PLES JME PLE	VOL (ml) SUBSAMPLES SET VOL FLOW_	UME	TIME INCREMEN TOT VOL	T.
TIME OF LOW PROPORTIONAL COMPOSITE INFORMATION FOR VARIABLE VOI	SUBSAMI SET VOLI SUBSAMI LUME SUBSAMPLES B REMENTS	PLESJME PLEASED ON FLOW (COMPO	VOL (ml) SUBSAMPLES SET VOL FLOW FLOW OTHER	UME	TIME INCREMEN TOT VOL	T'
TIME OF LOW PROPORTIONAL COMPORTE INFORMATION FOR VARIABLE VOI	SUBSAMI SET VOLI SUBSAMI LUME SUBSAMPLES B	PLESJME PLEASED ON FLOW (COMPO	VOL (ml) SUBSAMPLES SET VOL FLOW_	UME	TIME INCREMEN TOT VOL	T'
FIELD MEASU DISCHERGE TEMP (°C)	SUBSAMI SET VOLI SUBSAMI LUME SUBSAMPLES B IREMENTS DISCHARGE pH (S.U.)	SAMPLE TEMP (°C)	VOL (ml) SUBSAMPLES SET VOL FLOW DSITING 'BY HAND') A	UME TTACH SAMPLE AND	TIME INCREMEN TOT VOL FLOW INFORMATION FIME 00 1835)	T AL UME DN ON SEPARATE SHEET
FOR VARIABLE VOI DISCHARGE TEMP (°C)	SUBSAMI SET VOLI SUBSAMI LUME SUBSAMPLES B REMENTS DISCHARGE pH (S.U.)	PLES	VOL (ml) SUBSAMPLES SET VOL FLOW DSITING 'BY HAND') A SAMPLE TRC (mg/l)	DATE/ (e.g. 02/23/	TIME INCREMEN TOT VOL	AL UME ON ON SEPARATE SHEET
TIME OF LOW PROPOSE INAL COMPOSE INFORMATION FOR VARIABLE VOI	SUBSAMI SET VOLI SUBSAMI LUME SUBSAMPLES B REMENTS DISCHARGE pH (S.U.)	SAMPLE TEMP (°C)	VOL (ml) SUBSAMPLES SET VOL FLOW DSITING 'BY HAND') A SAMPLE TRC (mg/l)	DATE/ (e.g. 02/23/	TIME INCREMEN TOT VOL FLOW INFORMATION TIME 100 1835)	T AL UME DN ON SEPARATE SHEET
FIELD MEASU DISCHARGE TEMP (*C) MEASUREMENTS M	SUBSAMI SET VOLI SUBSAMI LUME SUBSAMPLES B REMENTS DISCHARGE pH (S.U.)	SAMPLE TEMP (°C)	VOL (ml) SUBSAMPLES SET VOL FLOW DSITING 'BY HAND') A SAMPLE TRC (mg/l)	DATE/ (e.g. 02/23/	TIME INCREMEN TOT VOL FLOW INFORMATION TIME 100 1835)	T AL UME DN ON SEPARATE SHEET INITIALS
FIELD MEASU DISCHARGE TEMP (*C) MEASUREMENTS M	SUBSAMI SET VOLI SUBSAMI SET VOLI SUBSAMI SUBSAMPLES BUSCHARGE PH (S.U.)	SAMPLE TEMP (°C) N 15 MINUTES OF SAMP	VOL (ml) SUBSAMPLES SET VOL FLOW DSITING 'BY HAND') A SAMPLE TRC (mg/l) LE OR LAST SUBSAM	TTACH SAMPLE AND DATE/ (e.g. 02/23/ PLE COLLECTION.	TIME INCREMEN TOT VOL FLOW INFORMATION TIME 00 1835)	T AL UME DN ON SEPARATE SHEET INITIALS
TIME OF LOW PROPORTION IN NATIONAL COMPOSITE INFORMATION FOR VARIABLE VOID DISCHIERGE TEMP (°C) AS 60 MEASUREMENTS IN COMMENTS:	SUBSAMI SET VOLI SUBSAMI LUME SUBSAMPLES B REMENTS DISCHARGE PH (S.U.) 7.40 UST BE TAKEN WITH	SAMPLE TEMP (°C) N 15 MINUTES OF SAMP	VOL (ml) SUBSAMPLES SET VOL FLOW DSITING 'BY HAND') A SAMPLE TRC (mg/l) LE OR LAST SUBSAM	DATE/ (e.g. 02/23/	TIME INCREMEN TOT VOL FLOW INFORMATION TIME 00 1835)	T AL UME DN ON SEPARATE SHEET INITIALS
TIME OF LOW PROPORTION IN NATIONAL COMPOSITE INFORMATION FOR VARIABLE VOID DISCHIERGE TEMP (°C) AS 60 MEASUREMENTS IN COMMENTS:	SUBSAMI SET VOLI SUBSAMI SET VOLI SUBSAMI SUBSAMPLES BUSCHARGE PH (S.U.)	SAMPLE TEMP (°C) N 15 MINUTES OF SAMP	VOL (ml) SUBSAMPLES SET VOL FLOW DSITING 'BY HAND') A SAMPLE TRC (mg/l) LE OR LAST SUBSAM	DATE/ (e.g. 02/23/ PLE COLLECTION.	TIME INCREMEN TOT VOL FLOW INFORMATION TIME 00 1835)	INITIALS AMM AMM AMM AMM (DATE)
TIME OF LOW PROPORTION IN NATIONAL COMPOSITE INFORMATION FOR VARIABLE VOID DISCHIERGE TEMP (°C) AS 60 MEASUREMENTS IN COMMENTS:	SUBSAMI SET VOLI SUBSAMI LUME SUBSAMPLES B REMENTS DISCHARGE PH (S.U.) 7.40 UST BE TAKEN WITH	SAMPLE TEMP (°C) ON 15 MINUTES OF SAMP	VOL (ml) SUBSAMPLES SET VOL FLOW DISTING BY HAND') A SAMPLE TRC (mg/l) LE OR LAST SUBSAM	DATE/ (e.g. 02/23/ FIGURE	TIME INCREMEN TOT VOL FLOW INFORMATION TO THE TOT VOL FLOW INFORM	INITIALS AMM AMM AMM AMM (DATE)
TIME OF LOW PROPORTION IN NATIONAL COMPOSITE INFORMATION FOR VARIABLE VOID DISCHIERGE TEMP (°C) AS 60 MEASUREMENTS IN COMMENTS:	SUBSAMI SET VOLI SUBSAMI LUME SUBSAMPLES B REMENTS DISCHARGE PH (S.U.) 7.40 UST BE TAKEN WITH	SAMPLE TEMP (°C) N 15 MINUTES OF SAMP	VOL (ml) SUBSAMPLES SET VOL FLOW DISTING BY HAND') A SAMPLE TRC (mg/l) LE OR LAST SUBSAM	DATE/ (e.g. 02/23/ FIGURE	TIME INCREMEN TOT VOL FLOW INFORMATION TO THE TOT VOL FLOW INFORM	INITIALS AMM AMM AMM AMM (DATE)
TIME OF LOW PROPORTIONAL COMPONIE INFORMATION FOR VARIABLE VOIDISCHINGE TEMP (**C) AS 16 C MEASUREMENTS IN COMMENTS: (PRINTED NA	SUBSAMI SET VOLI SUBSAMI LUME SUBSAMPLES B REMENTS DISCHARGE PH (S.U.) T. YOU ME/AFFILIATIO	SAMPLE TEMP (°C) ON 15 MINUTES OF SAMP	VOL (mi) SUBSAMPLES SET VOL FLOW DSITING BY HAND') A SAMPLE TRC (mg/l) LE OR LAST SUBSAM LYST) TIME	DATE/ (e.g. 02/23/ PLE COLLECTION. (SIGNA	TIME INCREMEN TOT VOL FLOW INFORMATION (NO. 1835) IO:IUGM RECEIVEDA	INITIALS AMM AMM AMM AMM (DATE)
FIELD MEASU DISCHERGE TEMP (°C) MEASUREMENTS M COMMENTS: (PRIN ED NA	SUBSAMI SET VOLUSUBSAMI SET VOLUSUBSAMI SUBSAMI SUBSAMPLES BUSCHARGE PH (S.U.) 7.40 W. YASI ME/AFFILIATION ME/AFFILIATION SUBSAMI SUBSAMPLES BY	SAMPLE TEMP (°C) ASED ON FLOW (COMPO SAMPLE TEMP (°C) N 15 MINUTES OF SAMP N SAMPLER/ANAL DATE FEDEX	VOL (mi) SUBSAMPLES SET VOL FLOW DSITING BY HAND') A SAMPLE TRC (mg/l) LE OR LAST SUBSAM LYST) TIME J P9 / 13 14 HAND DELIVER	DATE/ (e.g. 02/23/ PLE COLLECTION. (SIGNA	TIME INCREMEN TOT VOL FLOW INFORMATION (NO. 1835) IO:IUGM RECEIVEDA	INITIALS AMM AMM AMM AMM (DATE)
FIELD MEASU DISCHERGE TEMP (°C) MEASUREMENTS M COMMENTS: (PRIN ED NA REE SHIPPING MET CONDITION OF	SUBSAMI SET VOLI SUBSAMI SET VOLI SUBSAMI UME SUBSAMPLES BUSCHARGE PH (S.U.) 7.40 W. VAS. ME/AFFILIATION INQUISHED BY THOD: UPS	SAMPLE TEMP (°C) ON 15 MINUTES OF SAMP N SAMPLER/ANAI	VOL (mi) SUBSAMPLES SET VOL FLOW DSITING BY HAND') A SAMPLE TRC (mg/l) LE OR LAST SUBSAM LYST) TIME J P9 / 13 11 HAND DELIVER THER	TTACH SAMPLE AND DATE/ (e.g. 02/23/ FIGURE PLE COLLECTION. (SIGNA) Y_OTHER	TIME INCREMEN TOT VOL FLOW INFORMATION (NO. 1835) IO:IUGM RECEIVEDA	INITIALS AMM AMM AMM AMM (DATE)

NOTE: It is the responsibility of the sampler to insure that samples are properly collected, preserved (>0-5° C) and shipped. Sample hold time is 36 h. Additional costs may be incurred by improper preservation, shipping or receipt of samples after 3 p.m. or on weekends and holidays.



Client Sample ID: Doswell All American Truck Plaza Outfall 001

Permit No: VA0052906 Sample Period: 2/28/08



Report of Analysis: Whole Effluent Toxicity (WWW)

Submitted To:	Prepared By:
Mr. David Stoneman	Coastal Bioanalysts, Inc.
Primary Laboratories, Inc.	6400 Enterprise Court
7423 Lee Davis Road	Gloucester, VA 23061
Mechanicsville, VA 23111	(804) 694-8285
	www.coastalbio.com
	Contact: Peter F. De Lisle, Technical Director

Acute Test Results		CHICA MICH MICHAEL		
Species-Test Method	48-h LC50	95% C.L.	T.U.Ac	NOAEC
C. dubia EPA 2002.0	>100	N/A	1.00	100
P. promelas EPA 2000.0	>100	N/A	1.00	100

Note: Details regarding test conduct and data analysis provided in attached bench sheets and printouts as applicable.

Acute Test Biological Summa			Sample	Concentra	tion (%)		
Species-Method	Endpoint	Control	6.5	13	25	50	100
C. dubia EPA 2002.0	Survival (%):	100	100	100	100	100	100
P. promelas EPA 2000.0	Survival (%):	100	100	100	100	100	100

Test Information Species-Method	Start Date/Time End Date/Time	Organism Source	Hatch/Harvest Date/Time	Acclimation Temp.	Acclimation Water	Test Aerated?
C. dubia EPA 2002.0	2/29/08 1455 3/2/08 1500	CBI Stock	2/28/08 1605 2/29/08 0930	25° C	Mod. Hard Syn. FW	No
P. promelas EPA 2000.0	2/29/08 1440 3/2/08 1450	CBI Stock	2/20/08 1100 2/21/08 1100	25° C	Mod. Hard Syn. FW	No

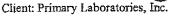
Sample/Dilution Water Data	Acute Test			
	Dilutio			
Water Quality Parameter (Units)	Sample	Water		
Arrival Temperature (°C)	3	N/A		
Use Temperature (°C)	- 25	25		
Conductivity (µS/cm)	556	297		
pH (S.U.)	7.39	8.02		
Dissolved Oxygen (mg/l)	8.2	8.2		
Total Hardness (mg/l as CaCO ₃)	66	86		
Alkalinity (mg/l as CaCO ₃)	13	59		
Total Residual Chlorine (mg/l)	<q.l.< td=""><td>N/A</td></q.l.<>	N/A		
Ammonia (mg/I NH ₃ -N)	<1.0	N/A		

Dilution water = Moderately hard synthetic freshwater made with ASTM Type I deionized water

Sample Aging/Use/Pretreatment								
CBI Sample I.D.	Collection Date(s)/Time(s) Date(s)/Time(s)							
PRIM0801-A 2/28/08 1549 2/29/08 1440, 1455 N/A Aerated 3 min								

Page 1 of 2 Report Pages
Total No. Printouts/Bench Sheets Attached: 4

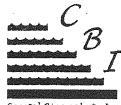
EPA Laboratory ID: VA01116



Project ID: PRIM0801

Client Sample ID: Doswell All American Truck Plaza Outfall 001

Permit No: VA0052906 Sample Period: 2/28/08



Coastal Bioanalysts, Inc.

Acute Test W	Acute Test Water Quality (Mean/Std. Dev.)					A STATE OF THE STA			37987-4			
Test:			C. dubid	2002.0				P.	promelo	zs 2000.0)	NAMES OF TAXABLE PARTY.
% Conc:	Cont.	6.5	13	25	50	100	Cont.	6.5	13	25	50	100
Temp.	25	25	25	25	25	25	25	25	25	25	25	25
(°C)	0	0	0	0	0	0	0	0	0	0	0	0
D.O.	8.1	8.2	8.1	8.1	8.1	8.0	8.1	8.1	8.0	8.0	7.9	7.9
(mg/l)	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2
pН	8.09	8.06	8.05	7.99	7.84	7.60	7.89	7.87	7.81	7.74	7.65	7.43
(S.U.)	0.05	0.08	0.08	0.08	0.12	0.19	0.18	0.15	0.17	0.16	0.09	0.02

Acute Test QA/QC	Reference To	xicant;:KCl:Unit	s: mg/l Test O	rganism Source: CBI	Stock Cultures
Species-Method (Ref. Test Date)	Data Source	% Control Survival	48-h LC50	95% C.L./A.L. For LC50	RTT in Control?
C. dubia 2002.0	RTT	100	506	392-560	Yes
(2/20/08-2/22/08)	CC	100	576	501-652	
P. promelas 2000.0	RTT	100	847	777-925	Yes
(2/19/08-2/21/08)	CC	100	911	828-995	

Note: RTT = Reference Toxicant Test, CC = Control Chart

The results of analysis contained within this report relate only to the sample as received in the laboratory. This report shall not be reproduced except in full without written approval from the laboratory.

APPROVED:

Peter F. De Lisle, Ph.D.

Technical Director

3/1/08 Date

GLOSSARY OF TERMS AND ABBREVIATIONS

A.L. (Acceptance Limits): The results of a given reference toxicant test are compared to the control chart mean value \pm 2 standard deviations. These limits approximate the 95% probability limits for the "true" reference toxicant value.

C.L. (Confidence Limits): These are the probability limits, based on the data set and statistical model employed, that the "true value" lies within the limits specified. Typically limits are based on 95% or 99% probabilities.

Control chart: A cumulative summary chart of results from QC tests with reference toxicants. The results of a given reference toxicant test are compared to the control chart mean value and 95% Acceptance Limits (A.L.) (mean ± 2 standard deviations).

LC50: The concentration of sample or chemical, calculated from the data set using statistical models, causing a 50% reduction in test organism survival. The lower the LC50, the more toxic the chemical or sample. Units are same as test concentration units. Note: The LC50 value must always be associated with the duration of exposure. Thus 48-h LC50, 96-h LC50, etc. are calculated.

N/A: Not applicable. N/D: Not determined or measured.

NOAEC: No-observable-acute-effect-concentration. The highest concentration of sample or chemical in an acute test dilution series in which the test organisms exhibit no statistically significant reduction in the test end point (e.g. survival) compared to control organisms. Units are same as test concentration units.

Q.L.: Quantitation Limit. Level, concentration, or quantity of a target variable (analyte) that can be reported at a specified degree of confidence.

T.U.: Toxic units. Expresses the relative toxicity of an effluent in such a manner that the larger the toxic unit value the more toxic the effluent. T.U. Ac = 100/I.C50. T.U. Chr = 100/NOEC. A dimensionless unit.

Page 2 of 2 Report Pages
Total No. Printouts/Bench Sheets Attached: 4

EPA Laboratory ID: VA01116



ECS MID-ATLANTIC, LLC

Geotechnical • Construction Materials • Environmental • Facilities

August 8, 2008

Ms. Tamira Cohen
Department of Environmental Quality
Piedmont Regional Office
4949-A Cox Road
Glen Allen, Virginia 23060

ECS Project No.: 03-8725

RE: Annual Report Doswell All American Travel Plaza (DAATP)

Outfall 901 - Copper, Zinc, and Biological Monitoring Results

Doswell, Virginia

VPDES Permit Number VA0052906 (reissued February 19, 2006)

Dear Ms. Cohen:

ECS Mid-Atlantic, LLC is pleased to submit this Annual Report for the above referenced site. The information contained herein serves to comply with the requirements of Part I.E.3 of the established VPDES permit. More specifically, pollutant specific and biological monitoring data collected from Outfall 901 is required to be submitted as well as an analysis of modifications needed to update the Stormwater Pollution Prevention Plan (SWPPP) or Best Management Practices (BMPs) utilized at the site.

Pursuant to Part I.A.2 of the above referenced VPDES permit, Outfall 901 is sampled every quarter following a measurable rain event. No discharge events occurred during the quarterly monitoring periods from July 2007 through March 2008, therefore resulting in a lack of data for those quarters. The data presented below in Table 1 represents the most recent monitoring data collected at the outfall. The monitored parameters were below the allowable limits specified in Part I.2.a of the permit. These data, and the associated laboratory analytical results, have also been provided to the Department as part of the routine Discharge Monitoring Reports (DMRs) submitted by DAATP.

Table 1 - Pollutant specific monitoring data collected from Outfall 901; May 2007 - July 2008

Date	Flow		Petroleum Hydrocarbons		Zinc Dissolved
July 2008	0.66 MGD	7.02 SU	<1.0 mg/L	44 μg/L	20 μg/L
April 2008	0.053 MGD	6.64 SU	<1.0 mg/L	52 μg/L	42 μg/L
May 2007	0.017 MGD	6.76 SU	<1.0 mg/L	3.9 µg/L	60 μg/L

In addition to pollutant specific monitoring, quarterly biological monitoring events are required to ascertain the potential of the permitted discharge to adversely affect the aquatic environment. One (1) sample is collected for acute toxicity testing from Outfall

on Dry Weather and 901 Wet Weather per quarter. To date, two (2) quarters have been sampled (January through March 2008 and April through June 2008) resulting in a total of four (4) acute toxicity tests. Sample results from the four (4) acute toxicity tests are provided as Attachments 1 (1st Quarter) and 2 (2nd Quarter). As can be seen from the results, the four (4) tests resulted in a NOAEC of 100, which indicates no adverse effects were observed in either the *C. dubia* or *P. promelas* populations. In fact, of the replicates, dilutions, and tests run, only one (1) *P. promelas* individual did not survive the 100% effluent concentration collected from the Wet Weather Outfall 901 on July 7, 2008. This extremely low mortality results in a statistically verified NOAEC of 100, indicating the effluent does not appear to be harmful to the aquatic environment. It follows then that the toxicity tests report a 48-h LC₅₀ greater than 100. The LC₅₀ is defined as the sample concentration that will cause a 50% reduction in survival of the test organism. Thus, since no adverse effects were observed in the 100% sample concentration, the LC₅₀ could not be determined as the effluent was shown to not cause observable acute adverse effects to these test organisms.

Based on the data collected at Outfall 901, no exceedances of the pollutant specific concentration limits specified in the permit have been detected within the most recent monitoring year. Thus, neither revisions to the SWPPP nor modifications to site BMPs are necessary at this time. The BMPs employed at the study site therefore appear to be adequately treating the stormwater discharge from the facility.

We are pleased to have this opportunity to work with you on the project. Should you have any questions or comments, please feel free to contact us at (804) 353-6333.

Respectfully submitted,

ECS MID-ATLANTIC, LLC

Adam M. Meurer, M.S.

Senior Environmental Scientist

Marlee A. Parker

Environmental Department Manager

W. Lloyd Ward, P.E.

Branch Manager, Vice President

Cc: Gary Mattson-DAATP
Allison Dunaway, DEQ-PRO

ATTACHMENT 1 1st QUARTER TOXICITY TEST RESULTS

Project ID: PRIM0801

Client Sample ID: Doswell All American Truck Plaza Outfall 001

Permit No: VA0052906 Sample Period: 2/28/08

지수 Report of Analysis: Whole Effluent Toxicity (*****보호**)

Submitted To:
Mr. David Stoneman

Primary Laboratories, Inc. 7423 Lee Davis Road Mechanicsville, VA 23111 Prepared By: Coastal Bioanalysts, Inc. 6400 Enterprise Court Gloucester, VA 23061 (804) 694-8285

www.coastalbio.com

Contact: Peter F. De Lisle, Technical Director

Acute Lest Results				
Species-Test Method	48-h LC50	95% C.L.	T.U. _{Ac}	NOAEC
C. dubia EPA 2002.0	>100	N/A	1.00	100
P. promelas BPA 2000.0	>100	A/A	1.00	100

Note: Details regarding test conduct and data analysis provided in attached bench sheets and printouts as applicable.

AcuteTestBiological Summar	Sample Concentration (%)						
Species-Method . Endpoint		Control	6.5	13	25	50	100
C. dubia EPA 2002.0	Survival (%):	100	100	100	100	100	100
P. promelas EPA 2000.0	Survival (%):	100	100	100	10O	100	100

Test Information	Start Date/Time End Date/Time	Organism Source	Hatch/Harvest Date/Time	Acclimation Temp.	Acclimation Water	Test Aerated?
C. dubia EPA 2002.0	2/29/08 1455 3/2/08 1500	CBI Stock	2/28/08 1605 2/29/08 0930	25° C	Mod. Hard Syn. FW	No
P. promelas EPA 2000.0	2/29/08 1440 3/2/08 1450	CBI Stock	2/20/08 1100 2/21/08 1100	25° C	Mod, Hard Syn, FW	No

Sample Dilution Water Data	Acute Test		
		Dilution	
Water Quality Parameter (Units)	Sample	Water	
Arrival Temperature (°C)	3	N/A	
Use Temperature (°C)	2.5	25	
Conductivity (µS/cm)	556	297	
pH (S.U.)	7.39	8.02	
Dissolved Oxygen (mg/l)	8.2	8.2	
Total Hardness (mg/l as CaCO ₃)	66	86	
Alkalinity (mg/l as CaCO ₃)	13	59	
Total Residual Chlorine (mg/l)	<q.l.< td=""><td>N/A</td></q.l.<>	N/A	
Ammonia (mg/l NH ₃ -N)	<1.0	N/A	

Dilution water = Moderately hard synthetic freshwater made with ASTM Type I deionized water

Sample Aging/Use	Bretreatment		er handigen is the	是 的过去时的现在分词
	Collection	Date(s)/Time(s)	Date(s)/Time(s)	Sample Adjustments
CBI Sample I.D.	Date/Time	1st Used in Tests	Used in Renewals	The state of the s
PRTM0801.A	2/28/08 1549	2/29/08 1440, 1455	N/A	Aerated 3 min

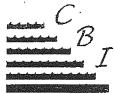
Page 1 of 2 Report Pages
Total No. Printouts/Bench Sheets Attached: 4

EPA Laboratory ID: VA01116

Project ID: PRIM0801

Client Sample ID: Doswell All American Truck Plaza Outfall 001

Permit No: VA0052906 Sample Period: 2/28/08



Coastal Bioanalysts, Inc.

When the Chinates of the Park	710 740	o'bii illemler	iores a sa	n-2 van Claire	assil .	to selected held	S.164.184.		Er offer	Qu.S.J.		1,1,1
Acute Test W	ater Qua	lityi(Me				L. SPAN	TER CE		ar diff.	清明		. 4.
Test:		C. dubia 2002.0						₽	. promel	as 2000.0	}	
% Conc:	Cont.	6.5	13	25	50	100	Cont.	6.5	13	25	50	100
Temp.	25	25	25	25	25	25	25	25	25	25	25	25
(°C)	0	0	0	0	0	0	0	0	0	0	0	0
D.O.	8.1	8.2	8.1	8.1	8,1	8.0	8.1	8.1	8.0	8.0	7.9	7.9
(mg/l)	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2
pH	8.09	8.06	8.05	7.99	7.84	7.60	7.89	7.87	7.81	7.74	7.65	7.43
(Ĵ.U.)	0.05	0.08	0.08	0.08	0.12	0.19	0.18	0.15	0.17	0.16	0.09	0.02

Adure TestiOMQC - Reference Toxicant KG TUnits: mg/l - Test Organism Solince: GBI Stock Gultures "								
Species-Method (Ref. Test Date)	Data Source	% Control Survival	48-h LC50	95% CL/A.L. For LC5Q	RTT in Control?			
C. dubia 2002.0	RTT	100	506	392-560	Yes			
(2/20/08-2/22/08)	CC	100	576	501-652				
P. promelas 2000.0	RTT	100	847	777-925	Yes			
(2/19/08-2/21/08)	CC	100	911	828-995				

Note: RTT = Reference Toxicant Test, CC = Control Chart

The results of analysis contained within this report relate only to the sample as received in the laboratory. This report shall not be reproduced except in full without written approval from the laboratory.

APPROVED:

Peter F. De Lisle, Ph.D.

Technical Director

3/2/08 Date

GLOSSARY OF TERMS AND ABBREVIATIONS

A.L. (Acceptance Limits): The results of a given reference toxicant test are compared to the control chart mean value ± 2 standard deviations. These limits approximate the 95% probability limits for the "true" reference toxicant value.

C.L. (Confidence Limits): These are the probability limits, based on the data set and statistical model employed, that the "true value" lies within the limits specified. Typically limits are based on 95% or 99% probabilities.

Control chart: A cumulative summary chart of results from QC tests with reference toxicants. The results of a given reference toxicant test are compared to the control chart mean value and 95% Acceptance Limits (A.L.) (mean ± 2 standard deviations).

LC50: The concentration of sample or chemical, calculated from the data set using statistical models, causing a 50% reduction in test organism survival. The lower the LC50, the more toxic the chemical or sample. Units are same as test concentration units. Note: The LC50 value must always be associated with the duration of exposure. Thus 48-h LC50, 96-h LC50, etc. are calculated.

N/A: Not applicable. N/D: Not determined or measured.

NOAEC: No-observable-acute-effect-concentration. The highest concentration of sample or chemical in an acute test dilution series in which the test organisms exhibit no statistically significant reduction in the test end point (e.g. survival) compared to control or ganisms. Units are same as test concentration units.

Q.L.: Quantitation Limit. Lovel, concentration, or quantity of a target variable (analyte) that can be reported at a specified degree of confidence.

T.U.: Toxic units. Expresses the relative toxicity of an effluent in such a manner that the larger the toxic unit value the more toxic the effluent. T.U._{As} = 100/LC50. T.U._{Cs} = 100/NOEC. A dimensionless unit

Page 2 of 2 Report Pages

Total No. Printouts/Bench Sheets Attached: 4

EPA Laboratory ID: VA01116

Project ID: PRIM0802

Client Sample ID: Doswell All American Truck Plaza Outfall 081

Permit No: VA0052906 Sample Period: 4/22/08

0804244-1

BI

Report of Analysis: Whole Effluent Toxicity (WET)

Submitted To:
Mr. David Stoneman
Primary Laboratories, Inc.
7423 Lee Davis Road
Mechanicsville, VA 23111
Gloucester, VA 23061
Www.coastalbio.com
Contact: Peter F. De Lisle, Technical Director

Acute Test Results	n with the first state of the s			:
Species-Test Method	48-h LC50	95% C.L.	T.U.Ac	NOAEC
C. dubia EPA 2002.0	>100	N/A	1.00	100
P. promelas EPA 2000.0	>100	N/A	1.00	100

Note: Details regarding test conduct and data analysis provided in attached bench sheets and printouts as applicable.

Acuter est Biological Summan			Sample	Concen tra	ition (%)		
Species-Method	Endpoint	Control	6.5	13	25	50	100
C. dubia EPA 2002.0	Survival (%):	100	100	100	100	100	100
P. promelas EPA 2000.0	Survival (%):	100	100	100	100	100	100

Test Information	Start Date/Time	Organism	Hatch/Harvest	Acclimation	Acclimation	Test
Species-Method	End Date/Time	Source	Date/Time	Temp.	Water	Aerated?
C. dubia	4/23/08 1400	CBI	4/22/08 1635		Mod. Hard	
EPA 2002.0	4/25/08 1425	Stock	4/23/08`0925	25° C	Syn. FW	No
P. promelas	4/23/08 1410	CBI	4/13/08 1200		Mod. Hard	
EPA 2000.0	4/25/08 1435	Stock	4/14/08 1200	25° C	Syn. FW	No

Sample/Dilution Water Data	Acute Test		
		Dilution di	
Water Quality Parameter (Units)	Sample	Water	
Arrival Temperature (°C)	2	N/A	
Use Temperature (°C)	25	25	
Conductivity (µS/cm)	150	287	
pH (S.U.)	6.77	7.75	
Dissolved Oxygen (mg/l)	8.2	8,2	
Total Hardness (mg/l as CaCO ₃)	66	100	
Alkalinity (mg/l as CaCO ₃)	23	59	
Total Residual Chlorine (mg/l)	<q.l.< td=""><td>N/A</td></q.l.<>	N/A	
Ammonia (mg/l NH ₃ -N)	<1.0	N/A	

Dilution water = Moderately hard synthetic freshwater made with ASTM Type I deionized water

Sample Aging Tose/Pretreatment									
CBI Sample LD.	Collection Date/Time	Date(s)/Time(s) 1st Used in Tests	Date(s)/Time(s) Used in Renewals	Sampi e Adjustments					
PRIM0802-A	4/22/08 1155	4/23/08 1400, 1410	N/A	Aerated 2 min					

Page 1 of 2 Report Pages
Total No. Printouts/Bench Sheets Attached: 4

Project ID: PRIM0802

Client Sample ID: Doswell All American Truck Plaza Outfall 001

Permit No: VA0052906 Sample Period: 4/22/08

alysts. Inc

cute Pest V	ater Qua	lity (NI	ean/Std.	Devi		}			A		Coasta	zir Biora
Test:									as 2000.	75 2000 N		
% Conc:	Cont.	6.5	13	25	50	100	Cont.	6.5	13	25	50	100
Temp.	25	25	25	25	25	25	25	25	25	25	THE PERSON NAMED IN COLUMN	
(°C)	0	0	0	0	0	0	0	n	ภ	.23 N	25	25
D.O.	8.1	8.1	8.1	B.1	8.0	8.0	8.1	8.1	8.1	U	<u>v</u>	
(mg/l)	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	8.1	8.0	8.0
рH	7.84	7.85	7.83	7.75	7.64	6.88	7.74	7.73		0.1	0.2	0.2
(S.U.)	0.06	0.05	0.03	0.11	0.11	0.33	0.10		7.69	7.60	7.52	6.7:
······································					~,11	~~~~	0.10	0.10	0.10	0.05	0.D4	0.2

		s: mg/l Test O	rganism Soutce: CBI	Stock Cultures
Data Source	% Control Survival		95% CL/A.L.	RTT in
RTT	100	560	517-607	Control? Yes
CC	100	575	494-656	1 63
CC	4	944	885-1006	Yes
	Data Source RTT CC RTT	Data % Control Source Survival RTT 100 CC 100 RTT 100	Source Survival 48-h LC50 RTT 100 560 CC 100 575 RTT 100 944	Data Source % Control Survival 95% C.L./A.L. For LC50 RTT 100 560 517-607 CC 100 575 494-656 RTT 100 944 885-1006

Note: RTT = Reference Toxicant Test, CC = Control Chart

The results of analysis contained within this report relate only to the sample as received in the laboratory. This report shall not be reproduced except in full without written approval from the laboratory.

APPROVED:

Peter P. De Lisle, Ph.D.

Technical Director

GLOSSARY OF TERMS AND ABBREVIATIONS

A.L. (Acceptance Limits): The results of a given reference toxicant test are compared to the control chart mean value ± 2 standard deviations. These limits approximate the 95% probability limits for the "true" reference toxicant value.

C.L. (Confidence Limits): These are the probability limits, based on the date set and statistical model employed, that the "true value" lies within the limits specified. Typically limits are based on 95% or 99% probabilities.

Control charf: A cumulative summary chart of results from QC tests with reference toxicants. The results of a given reference toxicant test are compared to the control chart mean value and 95% Acceptance Limits (A.L.) (mean ± 2 standard deviations).

LC50: The concentration of sample or chemical, calculated from the data set using statistical models, causing a 50% recluction in test organism survival. The lower the LC50, the more toxic the chemical or sample. Units are same as test concentration units. Note: The LC50 value must always be associated with the duration of exposure. Thus 48-h LC50, 96-h LC50, etc. are calculated.

N/A: Not applicable. N/D: Not determined or measured.

NOAEC: No-observable-acute-effect-concentration. The highest concentration of sample or chemical in an acute test diffution series in which the test organisms exhibit no statistically significant reduction in the test end point (e.g. survival) compared to control organisms. Units are same as

Q.L.: Quantitation Limit Level, concentration, or quantity of a target variable (analyte) that can be reported at a specified degree of confidence.

T.U.: Toxic units. Expresses the relative toxicity of an effluent in such a manner that the larger the toxic unit value the emore toxic the effluent. T.U.A. = 100/LC50. T.U.On = 100/NOEC. A dimensionless unit

Page 2 of 2 Report Pages Total No. Printouts/Bench Sheets Attached: 4

$\label{eq:attachment2} \textbf{2}^{nd} \ \textbf{QUARTER TOXICITY TEST RESULTS}$

0807036

Client: Primary Laboratories, Inc.

Project ID: PRIM0803

Client Sample ID: Doswell All American Truck Plaza Outfall 001

Permit No: VA0052906 .

Sample Period: 6/26/08 Dry Weather

Coastal Biography, Inc.

Report of Analysis: Whole Effluent Toxicity (ETT)

Submitted To:
Mr. David Stoneman
Primary Laboratories, Inc.
7423 Lee Davis Road
Mechanicsville, VA 23111

Prepared By: Coastal Bioanalysts, Inc. 6400 Enterprise Court Gloucester, VA 23061 (804) 694-8285

www.coastalbio.com

Contact: Peter F. De Lisle, Technical Director

The state of the s		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		·
Acute Test Results				. 4 . 1620
Species-Test Method	48-h LC50	95% C.L.	T.U.A.	NOAEC
C. dubia EPA 2002.0	>100	N/A	1.00	100
P. promelas EPA 2000.0	>100	N/A	1.00	100

*Note: Details regarding test conduct and data analysis provided in attached bench sheets and printouts as applicable.

AcuteTest Biological Summary	Data			Sample	Concentra	tion (%)	
Species-Method	Endpoint	Control	6.5	13	25	50	100
C. dubia EPA 2002.0	Survival (%):	100	100	100	100	100	100
P. promelas EPA 2000.0	Survival (%):	100	100	100	100	100	100

Test Information	Start Date/Time	Organism	Hatch/Harvest	Acclimation	Acclimation	Test
Species-Method	End Date/Time	Source	Date/Time	Temp.	Water	Aerated?
C. dubia	6/27/08 1500	CBI	6/26/08 1620		Mod, Hard	
EPA 2002.0	6/29/08 1500	Stock	6/27/08 0925	25° C	Syn. FW	No
P. promelas	6/27/08 1510	CBI	6/19/08 1000		Mod, Hard	
EPA 2000.0	6/29/08 1510	Stock	6/20/08 1000	25° C	Syn. FW	Yes
0						

Sample/Dilution Water Data	Acute	e Test
		Dilution a
Water Quality Parameter (Units)	Sample	Water
Arrival Temperature (°C)	1	N/A
Use Temperature (°C)	26	26
Conductivity (µS/cm)	241	298
pH (S.U.)	7.22 ′	7.70
Dissolved Oxygen (mg/l)	8.3	8.2
Total Hardness (mg/l as CaCO3)	68	100
Alkalinity (mg/l as CaCO ₃)	28	58
Total Residual Chlorine (mg/l)	<q.l.< td=""><td>N/A</td></q.l.<>	N/A
Ammonia (mg/l NH ₃ -N)	<1.0	N/A

Dilution water = Moderately hard synthetic freshwater made with ASTM Type I deionized water

Sample Aging/Wse	Bretreatment	THE CONTRACT OF THE CONTRACT O	n species	
CBI Samole I.D.	Collection Date/Time	Date(s)/Time(s) 1st Used in Tests	Date(s)/Time(s) Used in Renewals	Sample Adjustments
PRIM0803-A	6/26/08 1330	6/27/08 1500, 1510	N/A	Aerated 0.5 min

Page 1 of 2 Report Pages

Total No. Printouts/Bench Sheets Attached: 4

Project ID: PRIM0803

Client Sample ID: Doswell All American Truck Plaza Outfall 001

Permit No: VA0052906

Sample Period: 6/26/08 Dry Weather



Acute Test W	ater Oua	lity (Me	an/Std. I	Dev.)							1- 320°07	•,
Test:	1	A Second	C. dubit	2 2002.0			P. promelas 2000.0					
% Conc:	Cont.	6.5	13	25	50	100	Cont.	6.5	· 13	25	50	100
Temp.	25	25	25	25	25	25	25	25	25	25	25	25
(°C)	0.6	0.6	0.6	0.6	0.6	0.6	0	0	0	0	0	0
D.O.	7.9	7.8	7.8	7.8	7.7	7.7	7.9	7.7	7.3	7.3	7.0	6.7
(mg/l)	0.2	0.3	0.3	0.3	0.4	0.5	0.5	0.6	8.0	1.1	2.0	2.6
pH	7.72	7.70	7.67	7.62	7.53	7,40	7.75	7.73	7.66	7.60	7.48	7,32
(Ś.U.)	0.04	0.04	0.06	0.05	0.07	0.09	0.10	0.13	0.17	0.22	0.31	0.39

Acute Test QA/QC	Reference Tox	icant: KCl Unit	s: mg/l Test C	rganism Source: CBI	Stock Culturies
Species-Method (Ref. Test Date)	Data Source	% Control Survival	48-b LC50	95% C.L./A.L. For LC50	RTT in Control?
C. dubia 2002.0	RTT	95	549	481-608	Yes
(6/24/08-6/26/08)	CC	100	570	519-622	
P. promelas 2000.0	RTT	100	1005	913-1107	Yes
(6/24/08-6/26/08)	CC	100	913	816-1011	

Note: RTT = Reference Toxicant Test, CC = Control Chart

The results of analysis contained within this report relate only to the sample as received in the laboratory. This report shall not be reproduced except in full without written approval from the laboratory.

APPROVED:

Peter P. De Lisle Ph.D.

Technical Director

GLOSSARY OF TERMS AND ABBREVIATIONS

A.L. (Acceptance Limits): The results of a given reference toxicant test are compared to the control chart mean value ± 2 standard deviations. These limits approximate the 95% probability limits for the "true" reference toxicant value.

C.L. (Confidence Limits): These are the probability limits, based on the data set and statistical model employed, that the "true value" lies within the limits specified. Typically limits are based on 95% or 99% probabilities.

Control chart: A cumulative summary chart of results from QC tests with reference toxicants. The results of a given reference toxicant test are compared to the control chart mean value and 95% Acceptance Limits (A.L.) (mean \pm 2 standard deviations).

LC50: The concentration of sample or chemical, calculated from the data set using statistical models, causing a 50% reduction in test organism survival. The lower the LC50, the more toxic the chemical or sample. Units are same as test concentration units. Note: The LC50 value must always be associated with the duration of exposure. Thus 48-h LC50, 96-h LC50, etc. are calculated.

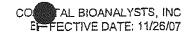
N/A: Not applicable. N/D: Not determined or measured.

NOAEC: No-observable-acute-effect-concentration. The highest concentration of sample or chemical in an acute test dilution series in which the test organisms exhibit no statistically significant reduction in the test end point (e.g. survival) compared to control organisms. Units are same as test concentration units.

Q.L.: Quantitation Limit. Level, concentration, or quantity of a target variable (analyte) that can be reported at a specified degree of confidence.

T.U.: Toxic units. Expresses the relative toxicity of an effluent in such a manner that the larger the toxic unit value the more toxic the effluent T.U. Az = 100/LC50. T.U. Dz = 100/NOEC. A directionless unit.

Page 2 of 2 Report Pages Total No. Printouts/Bench Sheets Attached: 4



NOTES:

% Efficient	I.D.	Day 0 Live	Day 1 Live	Day 2 Live	Final % Survival	% Effluent	I.D.	Day 0 Live	Day 1 Live	Day 2 Live	Final % Survival
	C-a	S	5	5			3-a	5	5	5	
Control	C~b	5	S	5		. ,	3-b	5	5	5	_
	C-c	5	5	5	706	25	3-c	5"	5	5_	סטן
	C-d	.5	5	5			3-d	5	5	.5	
	1-8	5	5	5			4-a	5	5	5	
6.5	1-b	5	5	5_			4-b	5	5	5	
	1-c	5	Ś	5	100	58	4-c	5	5	5	001
]	1-d	5	5	5			4-d	3	5	5	
	2-a	5	5	5			5-a	5	5	5	
13	2-b	3	5	5	_	100	5-b	ሄ	5	5	
	2-0	5	5	5	100	10	5-c	3	5	5	100.
ĺ	2-0	3	5	5			5-d	5	5	5	
				2.00		inli	ials:	PA	ST	bia	
•	•					Count T	ime:	1000	1160	1500	Test end time

4	
	Species; Cariodaphnia dubla
-	Source: CBI stock cultures
-	Other:
-	Brood Date/time start: 6/260 -8 (20
Servensia	Date /time end: 6/27/ 06 0925
-	Acclimation: Water: Mod. h and syn. FW
No State of	Other
dollara tomordo	Temperature (°C): 23
Permanence and parameters;	Feeding: Prior to test: YCT/Selenastrum During test: Not Fed
A Comment of the Control of the Cont	Illumination: 16L:8D 10-20 uE/m²/s
	Test chamber size:30 ml
	Solution volume:mi
	Number of replicates/treatment: 4
	Initial number of daphnids/replic ate:
	Randomization template number: /b
	Set up: Date (Day 0): 6/27/26
	Time water added: 1950
	Time daphnids added: 1505
	Set up by (initials):

TEST I.D. PRIM 6803

Parameter	I.D.	Day 0	Day 1	Day 2		
	C	25	26	25		
Temp.	1	25	26	25		
(°C)	2	21	26	25		
	3	. /	26	25		
	4	26	26	25		
	5	2 <u>/</u>		25		
	С	7.76	7.73	148		
рH	1	2.15	7.68	7.407		
(S.U.)	2	7.73	7.62	7.66		
	3	7.66	7.56	7.64		
	4	7.53	7.46	7:40		
	5	7,38	7.32	7.50		
	C	8.2	7.8	7.8		
ס.ס.	1	8.2	7.6	1.7		
(mg/l)	2	8.2	7.7	7.6		
	3	3. L	7.6	7.6		
	4	۶, <i>۲</i>	7.4	7.5		
	5	8.3	7.4	7.4		
	С	301		303		
Conduct.	1	278				
(uS/cm)	2	294				
	3	290				
	4	272				
Ì	5	242 s		250		
Replicate Ma	as.:	Š	S	C		
ìn	itials:	Ро	51	bra		
TRC (mg/	(i) in highest c	onc. at end of	test:	NA		

PIMEPHALES PROMELAS STATIC ACUTE WET TEST NOAEC-TYPE TEST (4 REPLICATES) (APP-4REP) FORM ETF1043D

COASTAL BIOANALYSTS, INC EFFECTIVE DATE: 11/26/07



NOTES:

% Effluent	LD.	Day D Live	Day 1 Live	Day 2 Live	Final % Survival	% Effluent	I.D.	Day 0 Live	Day 1 Live	Day 2 Live	Final % Survival
	C-a	5	5	5			3-2	5	5	5	
Control	C-b	5	5	5			3-b	5	5	5:	
	C-c	5	5	5	100	か	3-c	5	5	5	100
	C-d	5	5	5			3-d	5	5	5	
	1-a	5	5	5			4-а	5	5	5	
	1-b	5	5	5	100		4-b	5	5	5	
6.5	1-c	5	5	5	1,0	50.	4-c	5	5	5	100
"	1-0	5	5	5			4-d	5	S	5	
	2-a	5	5	5			5 -a	ζ	5	5	
,,	2-b	5	5	5	100		5-b	5	5	5	100
13	2-0	5	5	5		100	5-c	5	5	5	100
- [2-d	3	5	5			5-d	5	5	5	
		- m				init	lais:	Po	ST	bja	
						Count T	ime:	1310	10 30	15%	Test End Time

* 9 erax, in 6 eg 400	
*	
* ·	•

	Treatment			
Parameter	I.D.	Day 0	Day 1	Day 2
_		25	25	1 as
Temp.	1	25	25	125
(°C)	2	25	25	25
	3	25	25	25
	4	25	1 25	25
	5	25	25	25
	С	7.74	7.65	7.84
pΗ	1	1:75	7.59	7.84
(S.U.)	2	2.73	7,47	7,78
	3	7.66	7.36	7.78
.	4	7.53	7.14	7.76
durantos.	5	7.38	6.91	7.68
	С	8.2	7.3	7.2
D.O.	1	y. 2	7.0	8.0
(mg/1)	2	8.2	6.6	5,5
	3	82	5.6	8,0
	4	8.2	4.7	8.1
	5	8.3	3.7 4	8.
	С	301		297
Conduct.	1	298		1
(uS/cm)	2	244		
	3	190		
	4	272		
	5	242		D-58
Replicate Me	asured:	Į);	3	A
Ir	iltials:	<i>(</i> 10	ST	Q5,
TRC (mg	(I) in highest o	onc, at end of		NA).

Source: CBI stock cultures									
	Other:	******************************							
Hatch:			4/19/08 1000						
	Date /ti	me end:_	612-0108 1000						
Acclima	ation:		Mod. hard syn. FW						
			Other						
Temperature (°C):									
Feeding: Prior to test: Artemie ad libitum During test: Not Fed									
Illumina	ition: 16	L:8D 10-2	t0 uE/m²/s						
Test ch	amber si	ze:	_400 mlml						
Solution	volume	s: <u> </u>	00 mlml						
Initial ni	umber of	f fish/rep	licate:S						
Randon	nizatlon 1	template	number: 1,67,5						
Set up:	Date (Da	ay 0):	422/20						
			d: 145b						
•	Time fis	h added:	1510						
	Set up b	y (initial:	s):						

PRIM \$ 803

TEST I.D.____

Species: Pimephales promelas

EFFLUENT SAMPLE & DILUTION WATER CHARACTERISTICS FRESHWATER TESTS

COASTAL BIOANALYSTS, INC FORM ETF2031B EFFECTIVE DATE: 10/17/02

	NEW YORK	(1004)564(1)	PHONE HAVE	Armidia	VIIIO PER IN			
Sample Bottle ²	A-1					NOTES:		
Tot. Resid. Chlorine (mg/l)	(BC							
Hardness (mg/l CaCO ₃)	48					•		
Alkalinity (mg/l CaCO ₃)	28							
NH ₃ -N (mg/l)	<1.0	•						
Color/Appearance ³	CH							,
Obvious Odor?	ヘハン			ļ.			•	
Date/Time	6/22/03/	1						ţ
Initials	CVA.							
85A	MANUAL PROPERTY.	PARAMITOR		Mark State	(1947) to the fi	(#24 (0.00)P#4		
Sample Bottle	A-1							
Prep Temperature (°C)	26					**************************************		
Conductivity (uS/cm) ⁴	24							
D.O. (mg/l) After Warming	8.8		•					
Aeration Time (min)	0-5							
Adjusted D.O.	8-3							,
Final pH (S.U.)	7,22		*					
Tot. Resid. Chlorine (mg/l)5	N.D.							
Sample Filtered (60 um)?	N_{0}							
Date/Time	441/28							
Initials	PA					recipient de la constitución de la	ATRIC SECTION FOR	541177225319457331
		PHARMONY	AMERICA	Sea College				
Vat Number	146							
Temperature (°C)	256							-
Conductivity (uS/cm)	298						· .	
D.O. (mg/l)	812							
pH (S.U.)	2.70							
Hardness (mg/l CaCO ₃)	too		MARQUES STORE STORES				,	
Alkalinity (mg/l CaCO ₃)	58							
Date/Time	427/28							
Initials .	(b)				and the contraction of the contr			

Q.L. = Quantification Limit, N.D. = Not Determined/Measured, NA = Not Applicable

2Bottle number = 9th or 9th and 10th characters of Laboratory Sample I.D. (e.g. "A", "A-1", "A-2"; see SOP SPLS202)

3C-Clear, O-Opaque, T-Turbid, S-Solids (Sl-Slight, M-Moderate, H-Heavy), Y-Yellow, B-Brown, Bl-Black, G-Green

⁴Conductivity measured on first use of sample only

⁵Total residual chlorine measured after sample prep only if present in initial sample characterization

Client: Primary Laborator

Project ID: PRIM0804

Client Sample ID: Doswell All American Truck Plaza Outfall 901

Permit No: VA0052906

Sample Period: 7/7/08 Wet Weather

Coastal Bioanalysts, Inc.

Report of Analysis: Whole Effluent Toxicity (WET)

Submitted To: Mr. David Stoneman Primary Laboratories, Inc. 7423 Lee Davis Road Mechanicsville, VA 23111 Prepared By: Coastal Bioanalysts, Inc. 6400 Enterprise Court Gloucester, VA 23061 (804) 694-8285 www.coastalbio.com

080715

Contact: Peter F. De Lisle, Technical Director

Acute Test Results	· 课 清洁等 经产业			The state of the s
Species-Test Method	48-h LC50	95% C.L.	T.U. _{Ac}	NOAEC
C. dubia EPA 2002.0	>100	N/A	1.00	100
P. promelas EPA 2000.0	>100	N/A	1.00	100

Note: Details regarding test conduct and data analysis provided in attached bench sheets and printouts as applicable.

AcutéTest Biological Summa	Sample Concentration (%)						
Species-Method	Endpoint	Control	6.5	13	25	50	100
C. dubia EPA 2002.0	Survival (%):	100	100	100	10 0	100	100
P. promelas EPA 2000.0	Survival (%):	100	100	100	100	100	95

Dest Information Species-Method	Start Date/Time End Date/Time	Organism Source	Hatch/Harvest Date/Time	Acclimation Temp.	Acclimation Water	Test Aerated?
C. dubia EPA 2002.0	7/8/08 1435 7/10/08 1440	CBI Stock	7/7/08 1615 7/8/08 0935	25° C	Mod. Hard Syn. FW	No
P. promelas EPA 2000.0	7/8/08 1415 7/10/08 1420	CBI Stock	6/30/08 1100 7/1/08 1100	25° C	Mod, Hard Syn. FW	No

Sample Dilution Water Data	Acute	Test
		Dilution
Water Quality Parameter (Units)	Sample	Water
Arrival Temperature (°C)	4	N/A
Use Temperature (°C)	2 5	25
Conductivity (µS/cm)	195	294
рН (S.U.)	6.99 .	7.65
Dissolved Oxygen (mg/l)	8.2	8.2
Total Hardness (mg/l as CaCO ₃)	36	90
Alkalinity (mg/l as CaCO ₃)	33	61
Total Residual Chlorine (mg/l)	<q.l.< td=""><td>N/A</td></q.l.<>	N/A
Ammonia (mg/l NH ₃ -N)	<1.0	N/A

Dilution water = Moderately hard synthetic freshwater made with ASTM Type I deionized water

Sample Aging/Use	Pretreatment			
CBI Sample I.D.	Collection Date/Time	Date(s)/Time(s) 1st Used in Tests	Date(s)/Time(s) Used in Renewals	Sæmple Adjustments
PRIM0804-A	7/7/08 1115	7/8/08 1415, 1435	AVA	Aerated 0.5 min

Page 1 of 2 Report Pages Total No. Printouts/Bench Sheets Attached: 5

Project ID: PRIM0804

Client Sample ID: Doswell All American Truck Plaza Outfall 901

Permit No: VA0052906

Sample Period: 7/7/08 Wet Weather



Acute Test W	ute Test Water Quality (Mean/Std, Dev.)									er Majer		
Test:	Test: C. dubia 2002.0							. promele	as 2000.0)	- Inchiana	
% Conc:	Cont.	6.5	13	25	50	100	Cont.	6.5	13	25	50	100
Temp.	25	25	25	25	25	25	25	25	26	26	26	26
("C)	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
D.O.	8.0	7.9	7.9	7.9	7.9	7.9	8.0	7.9	7.8	7.6	7.5	7.4
(mg/l)	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.3	0.5	0.6	0.7
pH	7.76	7.73	7.71	7.65	7.55	7.42	7.74	7.73	7.67	7.63	7.55	7.33
(S.U.)	0.01	0.08	0.13	0.16	0.22	0.34	0.04	0.06	0.14	0.09	0.08	0.26

Acute Test QA/QC Reference Toxicant: KCl Units; mg/l Test Organism Source: CBI Stock Cultures								
Species-Method (Ref. Test Date)	Data Source	% Control Survival	48-h LC50	95% C.L./A.L. For LC50	RTT in Control?			
C. dubia 2002.0	ŔTT	95	549	481-6 0 8	Yes			
(6/24/08-6/26/08)	CC	100	570	519-622				
P. promelas 2000.0	RTT	100	1005 .	913-11 07	Yes			
(6/24/08-6/26/08)	CC	100	913	816-1011				

Note: RTT = Reference Toxicant Test, CC = Control Chart

The results of analysis contained within this report relate only to the sample as received in the laboratory. This report shall not be reproduced except in full without written approval from the laboratory.

APPROVED:

Technical Director

GLOSSARY OFTERMS AND ABBREVIATIONS

A.L. (Acceptance Limits): The results of a given reference toxicant test are compared to the control chart mean value ±2 standard deviations. These limits approximate the 95% probability limits for the "true" reference toxicant value.

C.L. (Confidence Limits): These are the probability limits, based on the data set and statistical model employed, that the "true value" lies within the limits specified. Typically limits are based on 95% or 99% probabilities.

Control chart: A cumulative summary chart of results from QC tests with reference toxicants. The results of a given reference toxicant test are compared to the control chari mean value and 95% Acceptance Limits (A.L.) (mean ± 2 standard deviations).

LC50: The concentration of sample or chemical, calculated from the data set using statistical models, causing a 50% reduction in test organism survival. The lower the LC50, the more toxic the chemical or sample. Units are same as test concentration units. Note: The LC50 value must always be associated with the duration of exposure. Thus 48-h LC50, 96-h LC50, etc. are calculated.

N/A: Not applicable. N/D: Not determined or measured.

NOAEC: No-observable-acute-effect-concentration. The highest concentration of sample or chemical in an acute test dilution series in which the test organisms exhibit no statistically significant reduction in the test end point (e.g. survival) compared to control organisms. Units are same as test concentration units.

Q.L.: Quantitation Limit. Level, concentration, or quantity of a target variable (analyte) that can be reported at a specified degree of confidence.

T.U.: Toxic units. Expresses the relative toxicity of an effluent in such a manner that the larger the toxic unit value the more toxic the effluent. T.U.At = 100/LC50. T.U.Qu = 100/NOEC. A dimensionless unit.

Page 2 of 2 Report Pages Total No. Printouts/Bench Sheets Attached: 5

Project ID: PRIM0801

Client Sample ID: Doswell All American Truck Plaza Outfall 001 - 15+ Quelo

Permit No: VA0052906 Sample Period: 2/28/08



DRY Report of Analysis: Whole Effluent Toxicity (MADD)

Prepared By: Submitted To: Coastal Bioanalysts, Inc. Mr. David Stoneman 6400 Enterprise Court Primary Laboratories, Inc. Gloucester, VA 23061 7423 Lee Davis Road (804) 694-8285 Mechanicsville, VA 23111 www.coastalbio.com Contact: Peter F. De Lisle, Technical Director

Acute Test Results	The special section of the section o			
Species-Test Method	48-h LC50	95% C.L.	T.U.Ac	NOAEC
C. dubia EPA 2002.0	>100	N/A	1.00	100
P. promelas EPA 2000.0	>100	N/A	1.00	100

Note: Details regarding test conduct and data analysis provided in attached bench sheets and printouts as applicable.

AcuteTest Biological Summa	[***************************************	Sample	Concerntra	tion (%)		
Species-Method	Control	6.5	13	25	50	100	
C. dubia EPA 2002.0	Survival (%):	100	100	100	100	100	100
P. promelas EPA 2000.0	Survival (%):	100	100	100	100	100	100

Test Information	Start Date/Time	Organism	Hatch/Harvest	Acclimation	Acclimation	Test
Species-Method	End Date/Time	Source	Date/Time	Temp.	Water	Aerated?
C. dubia	2/29/08 1455	CBI	2/28/08 1605		Mod. Hard	
EPA 2002.0	3/2/08 1500	Stock	2/29/08 0930	25° C	Syn. FW	No
P. promelas	2/29/08 1440	CBI	2/20/08 1100		Mod. Hard	
EPA 2000.0	3/2/08 1450	Stock	2/21/08 1100	25° C	Syn. FW	No

Sample/Dilution Water Data	Acute	e Test
		Dilution
Water Quality Parameter (Units)	Sample	Water
Arrival Temperature (°C)	3	N/A
Use Temperature (°C)	25	25
Conductivity (µS/cm)	556	297
pH (S.U.)	7.39	8.02
Dissolved Oxygen (mg/l)	8.2	8.2
Total Hardness (mg/l as CaCO ₃)	66	86
Alkalinity (mg/l as CaCO ₃)	13	59
Total Residual Chlorine (mg/l)	<q.l.< td=""><td>N/A</td></q.l.<>	N/A
Ammonia (mg/ NH ₃ -N)	<1.0	N/A

Sample Aging/Use	Pretreatment	A Particular Selation of the Selation		
CBI Sample LD.	Collection Date/Time	Date(s)/Time(s) 1 st Used in Tests	Date(s)/Time(s) Used in Renewals	Sample Adjustments
PR1M0801-A	2/28/08 1549	2/29/08 1440, 1455	N/A	Aerated 3 min

Project ID: PRIM0801

Client Sample ID: Doswell All American Truck Plaza Outfall 001

Permit No: VA0052906 Sample Period: 2/28/08



Coastal Bioanalysts, Inc

Acute Test W	ater Qua	lity (Me	an/Std. I	ev.)	(Male)	P. Company	i jaka		408	distribut.		1. 2.
T'est:		C. dubia 2002.0						P	. prom∈l	as 2000.0	}	
% Conc:	Cont.	6.5	13	25	50	100	Cont.	6.5	13	25	50	100
Temp.	25	25	25	25	25	25	25	25	25	25	25	25
(°C)	0	0	0	0	0	U	0	0	0	0	0	0
D.O.	8.1	8.2	8.1	8.1	8.1	8.0	8.1	8.1	8.0	8.0	7.9	7.9
(mg/l)	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2
pH	8.09	8.06	8.05	7.99	7.84	7.60	7.89	7.87	7.81	7.74	7.65	7.43
(Ś.U.)	0.05	0.08	0.08	0.08	0.12	0.19	0.18	0.15	0.17	0.16	0.09	0.02

Acute Test QA/QC Reference Toxicant: KCl Units: mg/l Test Organism Source: CBI Stock Cultures									
Species-Method (Ref. Test Date)	Data Source	% Control Survival	48-h LC50	95% C.L./A.L. For LC5 O	RTT in Control?				
C. dubia 2002.0	RTT	100	506	392-560	Yes				
(2/20/08-2/22/08)	CC	100	576	501-652					
P. promelas 2000.0	RTT	100	847	777-925	Yes				
(2/19/08-2/21/08)	CC	100	911	828-995					

Note: RTT = Reference Toxicant Test, CC = Control Chart

The results of analysis contained within this report relate only to the sample as received in the laboratory. This report shall not be reproduced except in full without written approval from the laboratory.

APPROVED:

Peter F. De Lisle, Ph.D.

Technical Director

3/1/08 Date

GLOSSARY OF TERMS AND ABBREVIATIONS

A.L. (Acceptance Limits): The results of a given reference toxicant test are compared to the control chart mean value ± 2 standard deviations. These limits approximate the 95% probability limits for the "true" reference toxicant value.

C.L. (Confidence Limits): These are the probability limits, based on the data set and statistical model employed, that the "true value" lies within the limits specified. Typically limits are based on 95% or 99% probabilities.

Control chart: A cumulative summary chart of results from QC tests with reference toxicants. The results of a givern reference toxicant test are compared to the control chart mean value and 95% Acceptance Limits (A.L.) (mean ± 2 standard deviations).

LC50: The concentration of sample or chemical, calculated from the data set using statistical models, causing a 50%, reduction in test organism survival. The lower the LC50, the more toxic the chemical or sample. Units are same as test concentration units. Note: The LC50 value must always be associated with the duration of exposure. Thus 48-h LC50, 96-h LC50, etc. are calculated.

N/A: Not applicable. N/D: Not determined or measured.

NOAEC: No-observable-acute-effect-concentration. The highest concentration of sample or chemical in an acute test dilution series in which the test organisms exhibit no statistically significant reduction in the test end point (e.g. survival) compared to control or ganisms. Units are same as test concentration units.

Q.L.: Quantitation Limit. Level, concentration, or quantity of a target variable (analyte) that can be reported at a specified degree of confidence.

T.U.; Toxic units. Expresses the relative toxicity of an effluent in such a manner that the larger the toxic unit value the more toxic the effluent. T.U. $_{th} = 100/LC50$. T.U. $_{th} = 100/NOEC$. A dimensionless unit.

Page 2 of 2 Report Pages

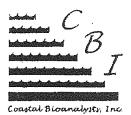
Total No. Printouts/Bench Sheets Attached: 4

Project ID: PRIM0802

Client Sample ID: Doswell All American Truck Plaza Outfall 0/21

Permit No: VA0052906 Sample Period: 4/22/08 901-15+ Quet

0804244-1



Report of Analysis: Whole Effluent Toxicity (WET)

Submitted To:	Prepared By:
Mr. David Stoneman	Coastal Bioanalysts, Inc.
Primary Laboratories, Inc.	6400 Enterprise Court
7423 Lee Davis Road	Gloucester, VA 23061
Mechanicsville, VA 23111	(804) 694-8285
	www.coastalbio.com
	Contact: Peter F. De Lisle, Technical Director

Acute Test Results	7 4 7 7 4 7 7 4 7 7 4 7 7 4 7 7 4 7			
Species-Test Method	48-h LC50	95% C.L.	T.U. _{Ac}	NOAEC
C. dubia EPA 2002.0	>100	N/A	1.00	100
P. promelas EPA 2000.0	>100	N/A	1.00	100

Note: Details regarding test conduct and data analysis provided in attached bench sheets and printouts as applicable.

AcuteTest Biological Summa			Sample	Concentra	tion (%)		
Species-Method	Endpoint	Control	6.5	13	25	50	100
C. dubia EPA 2002.0	Survival (%):	100	100	100	100	100	100
P. promelas EPA 2000.0	Survival (%):	100	100	100	100	100	100

Test Information	Start Date/Time	Organism	Hatch/Harvest	Acclimation	Acclimation	Test
Species-Method	End Date/Time	Source	Date/Time	Temp.	Water	Aerated?
C. dubia	4/23/08 1400	CBI	4/22/08 1 635		Mod. Hard	
EPA 2002.0	4/25/08 1425	Stock	4/23/08 0925	25° C	Syn. FW	No
P. promelas	4/23/08 1410	CBI	4/13/08 1200		Mod. Hard	
EPA 2000.0	4/25/08 1435	Stock	4/14/08 1200	25° C	Syn. FW	No

Sample/Dilution Water Data	Acute	e Test
		Dilution di
Water Quality Parameter (Units)	Sample	Water
Arrival Temperature (°C)	2	N/A
Use Temperature (°C)	25	25
Conductivity (µS/cm)	150	287
pH (S.U.)	6.77	7.75
Dissolved Oxygen (mg/l)	8.2	8.2
Total Hardness (mg/l as CaCO ₃)	66	100
Alkalinity (mg/l as CaCO ₃)	23	59
Total Residual Chlorine (mg/l)	<q.l.< td=""><td>N/A</td></q.l.<>	N/A
Ammonia (mg/l NH ₃ -N)	<1.0	N/A

Sample Aging/Ose/Pretreatment									
	Collection	Date(s)/Time(s)	Date(s)/Time(s)						
CBI Sample I.D.	Date/Time	1 st Used in Tests	Used in Renewals	Sample Adjustments					
PRIM0802-A	4/22/08 1155	4/23/08 1400, 1410	N/A	Aerated 2 min					

Project ID: PRIM0802

Client Sample ID: Doswell All American Truck Plaza Outfall 001

Permit No: VA0052906 Sample Period: 4/22/08

landardori C
Market 75
T

Test:	C. dubia 2002.0					1	F	prome!	as 2000.	n		
% Conc:	Cont.	6.5	13	25	50	100	Cont.	6.5	13	25	50	100
Temp.	25	25	25	25	25	25	25	25	2.5	25	- William Continues on the Continues on	APPENDANCE OF THE PERSON NAMED IN
(°C)	0	0	0	0	0	0	0	6	n n	43	25	25
D.O.	8.1	8.1	8.1	8.1	8.0	8.0	8.1	D 1	- U	<u> </u>	U	0
(mg/l)	0.1	0.1	0.1	0.1	0.2		1	8.1	8.1	8.1	0.8	0.8
рH	7.84					0.2	0.1	0.1	0.1	0.1	0.2	0.2
•	1	7.85	7.83	7.75	7.64	6.88	7.74	7.73	7.69	7.60	7.52	6.75
(S.U.)	0.06	0.05	0.03	0.11	0.11	0.33	0.10	0.10	0.10	0.05	0.04	0.22

Acute Test QA/QC		xicant: KCl Unit	s: mg/l Test O	rganism Source: CBI	Stock Cultures
Species-Method (Ref. Test Date)	Data Source	% Control Survival	48-h LC50	95% C.L./A.L. For LC50	RTT in Control?
C. dubia 2002.0	RTT	100	560	517-607	MARKET STATE OF THE STATE OF TH
(4/18/08-4/20/08)	CC	100	575	494-656	Yes
P. promelas 2000.0	RTT	100	944	885-1006	77
(4/18/08-4/20/08)	CC	100	908	820-997	Yes

Note: RTT = Reference Toxicant Test, CC = Control Chart

The results of analysis contained within this report relate only to the sample as received in the laboratory. This report shall not be reproduced except in full without written approval from the laboratory.

APPROVED:

Peter P. De Lisle, Ph.D.

Technical Director

9/25/08 Date

GLOSSARY OF TERMS AND ABBREVIATIONS

A.L. (Acceptance Limits): The results of a given reference loxicant test are compared to the control chart mean value ± 2 standard deviations. These limits approximate the 95% probability limits for the "true" reference toxicant value.

C.L. (Confidence Limits): These are the probability limits, based on the data set and statistical model employed, that the "true value" lies within the limits specified. Typically limits are based on 95% or 99% probabilities.

Control chart: A cumulative summary chart of results from QC tests with reference toxicants. The results of a given reference toxicant test are compared to the control chart mean value and 95% Acceptance Limits (A.L.) (mean ± 2 standard deviations).

LC50: The concentration of sample or chemical, calculated from the data set using statistical models, causing a 50% recluction in test organism survival. The lower the LC50, the more toxic the chemical or sample. Units are same as test concentration units. Note: The LC50 value must always be associated with the duration of exposure. Thus 48-h LC50, 96-h LC50, etc. are calculated.

N/A: Not applicable. N/D: Not determined or measured.

NOAEC: No-observable-acute-effect-concentration. The highest concentration of sample or chemical in an acute test distution series in which the test organisms exhibit no statistically significant reduction in the test end point (e.g. survival) compared to control organisms. Units are same as

Q.L.: Quantitation Limit. Level, concentration, or quantity of a target variable (analyte) that can be reported at a specified degree of confidence.

T.U.: Toxic units Expresses the relative toxicity of an effluent in such a manner that the larger the toxic unit value the arrive toxic the effluent. T.U._{Ac} = 100/LC50. T.U._{Cr} = 100/NOEC. A dimensionless unit.

Page 2 of 2 Report Pages
Total No. Printouts/Bench Sheets Attached: 4

0807036

Client: Primary Laboratories, Inc.

Project ID: PRIM0803

Client Sample ID: Doswell All American Truck Plaza Outfall 001 -

Permit No: VA0052906

Sample Period: 6/26/08 Dry Weather

Coastal Bioanalysts, Inc.



Report of Analysis: Whole Effluent Toxicity (

Prepared By: Submitted To: Coastal Bioanalysts, Inc. Mr. David Stoneman 6400 Enterprise Court Primary Laboratories, Inc. Gloucester, VA 23061 7423 Lee Davis Road (804) 694-8285 Mechanicsville, VA 23111 www.coastalbio.com

Contact: Peter F. De Lisle, Technical Director

Acute Test Results				. 4.2
Species-Test Method	48-h LC50	95% C.L.	$T.U{\Lambda\epsilon}$	NOAEC
C. dubia EPA 2002.0	>100	N/A	1.00	100
P. promelas EPA 2000.0	>100	N/A	1.00	100

Note: Details regarding test conduct and data analysis provided in attached bench sheets and printouts as applicable.

AcuteTest Biological Summary			Sample	Concentra	tion (%)		
Species-Method	Endpoint	Control	6.5	13	25	50	100
C. dubia EPA 2002.0	Survival (%):	100	100	100	1 00	100	100
P. promelas EPA 2000.0	Survival (%):	100	100	100	100	100	100

Test Information &	Start Date/Time End Date/Time	Organism Source	Hatch/Harvest Date/Time	Acclimation Temp.	Acclimation Water	Test Aerated?
C. dubia EPA 2002.0	6/27/08 1500 6/29/08 1500	CBI Stock	6/26/08 1620 6/27/08 0925	25° C	Mod. Hard Syn. FW	No
P. promelas EPA 2000.0	6/27/08 1510 6/29/08 1510	CBI Stock	6/19/08 1000 6/20/08 1000	25° C	Mod. Hard Syn. FW	Yes

Sample/Dilution Water Data	Acute Test			
Water Quality Parameter (Units)	Sample	Dilution Water		
Arrival Temperature (°C)	1	N/A		
Use Temperature (°C)	26	26		
Conductivity (µS/cm)	241	298		
pH (S.U.)	7.22	7.70		
Dissolved Oxygen (mg/l)	8.3	8.2		
Total Hardness (mg/l as CaCO ₃)	68	100		
Alkalinity (mg/l as CaCO ₃)	28	58		
Total Residual Chlorine (mg/l)	<q.l.< td=""><td>N/A</td></q.l.<>	N/A		
Ammonia (mg/l NH ₃ -N)	<1.0	N/A		

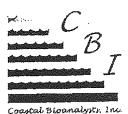
Sample Aging/Use	/Pretreatment		***	
CDI C	Collection Date/Time	Date(s)/Time(s) 1st Used in Tests	Date(s)/Time(s) Used in Renewals	Sample Adjustments
CBI Sample l.D.				Aerated 0.5 min
PRIM0803-A	6/26/08 1330	6/27/08 1500, 1510	N/A	Acrated 0.5 min

Project ID: PRIM0803

Client Sample ID: Doswell All American Truck Plaza Outfall 001

Permit No: VA0052906

Sample Period: 6/26/08 Dry Weather



Acute Test W	ater Qua	lity (Me	an/Std. 1	Dev.)							FAST.	
Test:	T	C. dubia 2002.0							. promelo	2s: 2000.0)	
% Conc:	Cont.	6.5	13	25	50	100	Cont.	6.5	13	25	50	100
Temp.	25	25	25	25	25	25	25	25	25	25	25	25
(°C)	0.6	0.6	0.6	0.6	0.6	0.6	0	0	0	0	0	0
D.O.	7.9	7.8	7.8	7.8	7.7	7.7	7.9	7.7	7.3	7.3	7.0	6.7
(mg/l)	0.2	0.3	0.3	0.3	0.4	0.5	0.5	0.6	8.0	1.1	2.0	2.6
pH	7.72	7.70	7.67	7.62	7.53	7.40	7.75	7.73	7.66	7.60	7.48	7.32
(\$.11.)	0.04	0.04	0.06	0.05	0.07	0.09	0.10	0.13	0.17	0.22	0.31	0.39

Acute Test QA/QC	Reference Tox	icant: KCl Unit	s: mg/l Test O	rganism Source: CBI	Stock Cultures
Species-Method (Ref. Test Date)	Data Source	% Control Survival	48-h LC50	95% C.L/A.L. For LC50	RTT in Control?
C. dubia 2002.0	RTT	95	549	481-608	Yes
(6/24/08-6/26/08)	CC	100	570	519-622	
P. promelas 2000.0	RTT	100	1005	913-1107	Yes
(6/24/08-6/26/08)	CC	100	913	816-1011	

Note: RTT = Reference Toxicant Test, CC = Control Chart

The results of analysis contained within this report relate only to the sample as received in the laboratory. This report shall not be reproduced except in full without written approval from the laboratory.

APPROVED:

Technical Director

GLOSSARY OF TERMS AND ABBREVIATIONS

A.L. (Acceptance Limits): The results of a given reference toxicant test are compared to the control chart mean value ± 2 standard deviations. These limits approximate the 95% probability limits for the "true" reference toxicant value.

C.L. (Confidence Limits): These are the probability limits, based on the data set and statistical model employed, that the "true value" lies within the limits specified. Typically limits are based on 95% or 99% probabilities.

Control chart: A cumulative summary chart of results from QC tests with reference toxicants. The results of a given reference toxicant test are compared to the control chart mean value and 95% Acceptance Limits (A.L..) (mean \pm 2 standard deviations).

LC50: The concentration of sample or chemical, calculated from the data set using statistical models, causing a 50% reduction in test organism survival. The lower the LC50, the more toxic the chemical or sample. Units are same as test concentration units. Note: The LC50 value must always be associated with the duration of exposure. Thus 48-h LC50, 96-h LC50, etc. are calculated.

N/A: Not applicable. N/D: Not determined or measured.

NOAEC: No-observable-acute-effect-concentration. The highest concentration of sample or chemical in an acute test dilution series in which the test organisms exhibit no statistically significant reduction in the test end point (e.g. survival) compared to control organisms. Units are same as test concentration units.

Q.L.: Quantitation Limit. Level, concentration, or quantity of a target variable (analyte) that can be reported at a specified degree of confidence.

T.U.: Toxic units. Expresses the relative toxicity of an effluent in such a manner that the larger the toxic unit value the more toxic the effluent. T.U.Ac = 100/LC50. T.U.Cht = 100/NOEC. A dimensionless unit.

Page 2 of 2 Report Pages Total No. Printouts/Bench Sheets Attached: 4

% Effluent	I.D.	Day 0 Live	Day 1 Live	Day 2 Live	Final % Survival	% Effluent	I.D.	Day 0 Live	Day 1 Live	Day 2 Live	Final % Survival
	С-а	5	5	5			3-а	5	5	5	
Control	C-b	5	5	5			3-b	5"	5	5]
	C-c	5	5	5	106	25	3-c	3"	5	5	סטן [
	C-d	.5	5	5			3 -d	5	5	5	
	1-8	5	5	5			4∙a	5	5	5	
6.5	1-b	5	5	5			4-b	5	5	5	
	1-c	5	Ś	5	100	5 s	4-c	5′	5	5	100
	1-d	5	5	5			4-d	5	5	5	
	2-a	5	5	5			5-a	5	5	5	
13	2-6	5	5	5		100	5-b	ሄ	5	5	
()	2-с	5	5	5	(00	10	5-c	3	5	5	100
Ī	2-d	3	5	5			5-d	5	5	5	
<u> </u>		-19×0+10×1115	THE PARTY OF THE P			Init	lals:	CA	57	Sign	rgurjas militrāks šūbiskļais šūbiskies - d
,	•					Count T	īme:	1600	1100	1500	Test end time

TEST I.D. PRIN 6803

_ACD

-	Treatment				
Parameter	î.D. C	Day 0	Day 1	Day 2	
-		25	26	25	Species: Ceriodaphnia dubia
Temp.	1	25	26	25	
(°C)	2	25	26	25	Source: CBI stock cultures
	3	2.(26	25	Other:
	4	21	26	25	Brood Date/time start: 6/26/-6 /LZ-0
	5	US.	26	25	I Release:
	C	7.76	7.73	148	Date /time end: 6/27/06 0925
рН	1	7.15	7.68	7.67	Acclimation: Water: Mod. hard syn. FW
(S.U.)	2	7.73	7.62	7.66	Other
1	3	7.66	7.56	7.64	Onioi
	4	7.53	7.46	7:100	Temperature (° C): 2.5
	5	7.38	7.32	7.50	Feeding: Prior to test: YCT/Selenastrum
	С	8.2	7.8	7.8	During test: Not Fed
D.O. [1	8.2	7.6	7.7	Illumination: 16L:8D 10-20 uE/m²/s
(mg/i)	2	8.2	7.7	7.6	
	3	۶. ^۲	7.6	7.6	Test chamber size:30 ml
Ī	4	ý. l-	7.4	7.5	Solution volume: 15 mlml
	5	8.3	7.4	7,4	Number of replicates/treatment:
	С	301		303	_
Conduct.	1	278	61 3 E 6 / A		Initial number of daphnids/replicate: 5
(uS/cm)	2	299			Randomization template number: 18
. [3	29D			Set up: Date (Day 0): 6/27(20
	4	272			•
	5	242		250	Time water added: 7950
Replicate Mea	9s.:	S	S	C	Time daphnids added: 1503
Inl	ials:	Po_	ST	issa	Set up by (initials):
TRC (mg/l) in highest co	onc. at end of t	est:	NA	Set up by (initials):

PIMEPHALES PROMELAS STATIC UTE WET TEST NOAEC-TYPE TEST (4 REPLICATES) (APP-4REP) FORM ETF1043D

CASTAL BIOANALYSTS, INC EFFECTIVE DATE: 11/26/07

% Effluent	I.D.	Day 0 Live	Day 1 Live	Day 2 Live	Final % Survival	% Effluent	I.D.	Day 0 Live	Day 1 Live	Day 2 Live	Final % Survival
	С-а	<	5	5		-	3-a	5	5	5	
Control	C-b	5	5	5		AND THE PROPERTY OF THE PROPER	3-b	5	5	5.	
	С-с	ζ.	5	5	100	15	3-c	5	5	5	100
	C-d	5	5	5		The description	3-d	5	5	5	
	1-a	5	5	5	1000		4-3	5	5	5	
	1-b	5	5	5	100		4-b	5	5	5	
6.5	1-c	5	5	5	100	50	4-c	5	5	5	100
Ü	1-d	5	5	5			4-0	5	S	5	
	2-a	5	5	5			5-a	\$	5	5	
. 1	2-b	5	3	5	1.000	_	5-b	5	5	5	100
13	2-c	5	5	5	(00	100	5-c	5	5	5	100
	2-ਰ	3	S	5			5-d	5	5	5	
A STATE OF THE PARTY OF THE PAR				osenii in		Init	lals:	Po	57	bija	
					e colorato que de la colorato de la	Count T	îme:	1510	10 30	15%	Test End Time

NOTES:

* geration began (1) 1040

-				noperation with the second
Parameter	Treatment I.D.	Day 0	Day 1	Day 2
	C	25	25	25
Temp.	1	25	25 25 25	25
(°C)	2	25	25	25
Para Millian III	3	25	25	25
	4	25	125	25
	5	25	25	25
	·C	7.76	7.65	7.84
pH	1	7:75	7.59	7.84
(S.U.)	2	2.73	7.47	7.78
	3	7.66	7.36	7.78
	4	7.53	7.14	7.76
	5	7.38	6.91	7.68
	С	8.2	7.3	9.2
D.O.	1	ÿ. 2	7.0	8.0
(mg/l)	2	8.2	يا. با	7,2
-	3	82	5.10	8,6
	4	¥. 2	4.7	8.1
	5	8.3	3,74	8.1
	С	301		297
Conduct.	1	248		
(uS/cm)	2	294		
	3	290		
f	4	272		
}	5	242		258
Replicate Me	asured:	p.	3	A
In	ltials:	'n	ST	25
TRC (mg/	1) in highest c	onc. at end of	test: .	NA
APPROXIMATION OF THE PARTY OF T				

Species: Pimephales promelas
Source: CBI stock cultures
Other:
Hatch: Date/time start: 4/19/08 1000
Date /time end: 4/20/08 1000
Acclimation: Water: Mod. hard syn. FW
Other
Temperature (°C):
Feeding: Prior to test: Artemia ad libitum During test: Not Fed
Hlumination: 16L:8D 10-20 uE/m²/s
Test chamber size: 400 mlml
Solution volume:mi
initial number of fish/replicate:
Randomization template number: 1, 1, 7, 5
Set up: Date (Day 0): 127/35
Time water added: / ५5 b
Time fish added: 15/5
Set up by (initials):

TESTID. RIN 1803 -APP-4RE
TESTID PRINT YD3 -APP-4RE

EFFLUENT SAMPLE & DILUTION WATER CHARACTERISTICS FRESHWATER TESTS

MARANTAN AND AND AND AND AND AND AND AND AND A	President	TIAL SAN	(Pletekoletko	A(CHIERE)	Viiroly ^{is}			
Sample Bottle ²	(A)					NOTES:		
Tot. Resid. Chlorine (mg/l)	LDC.	,						
Hardness (mg/l CaCO ₃)	48				naka marana ayan ayan ayan ayan ayan ayan ayan			
Alkalinity (mg/l CaCO ₃)	28							
NH ₃ -N (mg/l)	<1.0							
Color/Appearance3	CY							
Obvious Odor?	מרע							
Date/Time	4/22/000							
Initials	Ling						manacation in	Avolution English
S. S	MELLER ERE	taraillea	A III A COURT	INTERNATION	illeza concen	trational personal		
Sample Bottle	A-1							
Prep Temperature (°C)	26							
Conductivity (uS/cm) ⁴	24				~			
D.O. (mg/l) After Warming	8.8							
Aeration Time (min)	0-5							
Adjusted D.O.	8-3							
Final pH (S.U.)	7,22		·					
Tot. Resid. Chlorine (mg/l)5	N.D.							
Sample Filtered (60 um)?	No							
Date/Time	6/29/20						· · · · · · · · · · · · · · · · · · ·	
Initials	Pa			Market Special Control of the	and the second second	managa kang kang ka		149 (5 D c) 14 (5 E c)
		ioropa (UNEX	AMERICA:	AKA CHILIKI	Surga			
Vat Number	i							
Temperature (°C)	250							-
Conductivity (uS/cm)	298							-
D.O. (mg/l)	8,2							
pH (S.U.)	.2.70							
Hardness (mg/l CaCO ₃)	too						· · · · · · · · ·	
Alkalinity (mg/l CaCO ₃)	58							
Date/Time	427/2/30							
Initials .	En							and the second s
		terminad/Ms	AIR borres	- Not Applic	anle	-		

¹Q.L. = Quantification Limit, N.D. = Not Determined/Measured, NA = Not Applicable

²Bottle number = 9th or 9th and 10th characters of Laboratory Sample I.D. (e.g. "A", "A-1", "A-2"; see SOP SPLS202)

³C-Clear, O-Opaque, T-Turbid, S-Solids (Sl-Slight, M-Moderate, H-Heavy), Y-Yellow, B-Brown, Bl-Black, G-Green

⁴Conductivity measured on first use of sample only ⁵Total residual chlorine measured after sample prep only if present in initial sample characterization

Client Sample ID: Doswell All American Truck Plaza Outfall 901 - 2nd

Permit No: VA0052906

Sample Period: 7/7/08 Wet Weather

Coastal Bioanalysts, Inc.

Report of Analysis: Whole Effluent Toxicity (WET)

Prepared By: Submitted To: Coastal Bioanalysts, Inc. Mr. David Stoneman 6400 Enterprise Court Primary Laboratories, Inc. Gloucester, VA 23061 7423 Lec Davis Road (804) 694-8285 Mechanicsville, VA 23111 www.coastalbio.com Contact: Peter F. De Lisle, Technical Director

48-h LC50	95% C.L.	$T.U{Ac}$	NOAEC
>100	N/A	1.00	100
>100	N/A	1.00	100
	>100	>100 N/A	48-h LC50 95% C.L. T.U. _{Ac} >100 N/A 1.00

Note: Details regarding test conduct and data analysis provided in attached bench sheets and printouts as applicable.

AcuteTest Biological Summ			Sample	Con centra	tion (%)		
Species-Method	Endpoint	Control	6,5	13	25	50	100
C. dubia EPA 2002.0	Survival (%):	100	100	100	100	100	100
P. promelas EPA 2000.0	Survival (%):	100	100	100	100	100	95

Test Information Species-Method	Start Date/Time End Date/Time	Organism Source	Hatch/Harvest Date/Time	Acclimation Temp.	Acclimation Water	Test Aerated?
C. dubia EPA 2002.0	7/8/08 1435 7/10/08 1440	CBI Stock	7/7/08 1615 7/8/08 0935	25° C	Mod. Hard Syn. FW	No
P. promelas EPA 2000.0	7/8/08 1415 7/10/08 1420	CBI Stock	6/30/08 1100 7/1/08 1100	25° C	Mod. Hard Syn. FW	No

Sample/Dilution Water Data	Acute	Test
		Dilution
Wuter Quality Parameter (Units)	Sample	Water
Arrival Temperature (°C)	4	N/A
Use Temperature (°C)	25	25
Conductivity (µS/cm)	195	294
pH (S.U.)	6.99	7.65
Dissolved Oxygen (mg/l)	8.2	8.2
Total Hardness (mg/l as CaCO ₃)	36	90
Alkalinity (mg/l as CaCO ₃)	33	61
Total Residual Chlorine (mg/l)	<q.l.< td=""><td>N/A</td></q.l.<>	N/A
Ammonia (mg/l NH ₃ -N)	<1.0	N/A

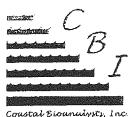
Sample Aging/Use	Pretreatment		32.00	
CBI Sample LD.	Collection Date/Time	Date(s)/Time(s) 1 st Used in Tests	Date(s)/Time(s) Used in Renewals	Sample Adjustments
PRIM0804-A	7/7/08 1115	7/8/08 1415, 1435	N/A	Aerated 0.5 min

Project ID: PRIM0804

Client Sample ID: Doswell All American Truck Plaza Outfall 901

Permit No: VA0052906

Sample Period: 7/7/08 Wet Weather



Acute Test W	Acute Test Water Quality (Mean/Std. Dev.)											. ,
Test:			C. dubi	a 2002.0			72 COMMOTO	P	. promele	as 2000.()	
% Conc:	Cont.	6.5	13	25	50	100	Cont.	6.5	13	25	50	100
Temp.	25	25	25	25	25	25	25	25	26	26	26	26
(°C)	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
D.O.	8.0	7.9	7.9	7.9	7.9	7.9	8.0	7.9	7.8	7.6	7.5	7.4
(mg/l)	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0_3	0.5	0.6	0.7
рН	7.76	7.73	7.71	7.65	7.55	7.42	7.74	7.73	7.67	7.63	7.55	7.33
(Ś.U.)	0.01	0.08	0.13	0.16	0.22	0.34	0.04	0.06	0.14	0.09	0.08	0.26

Acute Test QA/QC	Reference To	xicant: KCl Unit	s: mg/l Test O	rganism Source: CBI	Stock Cultures
Species-Method	Data	% Control	40 5 7 650	95% C.L./A.L.	RTT in
(Ref. Test Date)	Source	Survival	48-h LC50	For LC50	Control?
C. dubia 2002.0	RTT	95	549	481-608	Yes
(6/24/08-6/26/08)	CC	100	570	519-622	
P. promelas 2000.0	RTT	100	1005	913-11 07	Yes
(6/24/08-6/26/08)	CC	100	913	816-1011	

Note: RTT = Reference Toxicant Test, CC = Control Chart

The results of analysis contained within this report relate only to the sample as received in the laboratory. This report shall not be reproduced except in full without written approval from the laboratory.

APPROVED:

GLOSSARY OF TERMS AND ABBREVIATIONS

Technical Director

A.L. (Acceptance Limits): The results of a given reference toxicant test are compared to the control chart mean value ± 2 standard deviations. These limits approximate the 95% probability limits for the "true" reference toxicant value.

C.L. (Confidence Limits): These are the probability limits, based on the data set and statistical model employed, that the "true value" lies within the limits specified. Typically limits are based on 95% or 99% probabilities.

Control chart: A cumulative summary chart of results from QC tests with reference toxicants. The results of a given reference toxicant test are compared to the control chart mean value and 95% Acceptance Limits (A.L.) (mean ± 2 standard deviations).

LC50: The concentration of sample or chemical, calculated from the data set using statistical models, causing a 50% reduction in test organism survival. The lower the LC50, the more toxic the chemical or sample. Units are same as test concentration units. Note: The LC50 value must always be associated with the duration of exposure. Thus 48-h LC50, 96-h LC50, etc. are calculated.

N/A: Not applicable. N/D: Not determined or measured.

NOAEC: No-observable-acute-effect-concentration. The highest concentration of sample or chemical in an acute test dilution series in which the test organisms exhibit no statistically significant reduction in the test end point (e.g. survival) compared to control organisms. Units are same as test concentration units.

Q.L.: Quantitation Limit. Level, concentration, or quantity of a target variable (analyte) that can be reported at a specified degree of confidence.

T.U.: Toxic units. Expresses the relative toxicity of an efficient in such a manner that the larger the toxic unit value the more toxic the efficient. T.U. $_{Ac} = 100/LC50$. T.U. $_{Co} = 100/NOEC$. A dimensionless unit.

Project ID: PRIM0805

Client Sample ID: Doswell All American Truck Plaza Outfall 001 - 3 10.

Permit No: VA0052906

Sample Period: 9/29/08 Dry Weather

Coastal Bioanalysts, Inc.

Report of Analysis: Whole Effluent Toxicity (WET)

Submitted To:

Mr. David Stoneman

Primary Laboratories, Inc.

7423 Lee Davis Road

Mechanicsville, VA 23111

Mechanicsville, VA 23111

Prepared By:

Coastal Bioanalysts, Inc.

6400 Enterprise Court

Gloucester, VA 23061

(804) 694-8285

www.coastalbio.com

Contact: Peter F. De Lisle, Technical Director

Acute Test Results	的 建基础系统 医	Maring Mary in the Co		
Species-Test Method	48-h LC50	95% C.L.	T.U.Ac	NOAEC
C. dubia EPA 2002.0	>100	N/A	1.00	100
P. promelas EPA 2000.0	>100	N/A	1.00	100

Note: Details regarding test conduct and data analysis provided in attached bench sheets and printouts as applicable.

AcuteTest Biological Summ	ary Data	1	tion (%)				
Species-Method	Endpoint	Control	6.5	13	25	50	100
C. dubia EPA 2002,0	Survival (%):	100	100	100	100	100	100
P. promelas EPA 2000.0	Survival (%):	100	100	100	100	100	100

Test Information: Species-Method	Start Date/Time End Date/Time	Organism Source	Hatch/Harvest Date/Time	Acclimation Temp.	Acclimation Water	Test Aerated?
C. dubia EPA 2002.0	9/30/08 1520 10/2/08 1515	CBI Stock	9/29/08 1610 9/30/08 0925	25° C	Mod. Hard Syn. FW	No
P. promelas EPA 2000.0	9/30/08 1505 10/2/08 1505	CBI Stock	9/17/08 1530 9/18/08 1530	25° C	Mod. Hard Syn. FW	No

Sample/Dilution-Water Data	Acut	e Test
Water Quality Parameter (Units)	Sample	Dilution Water
Arrival Temperature (°C)	4	N/A
Use Temperature (°C)	26	25
Conductivity (µS/cm)	270	303
pH (S.U.)	7.40	7.79
Dissolved Oxygen (mg/l)	8.2	8.2
Total Hardness (mg/l as CaCO ₃)	74	96
Alkalinity (mg/l as CaCO ₃)	31 -	63
Total Residual Chlorine (mg/l)	<q.l.< td=""><td>N/A</td></q.l.<>	N/A
Ammonia (mg/l NH ₃ -N)	<1.0	N/A

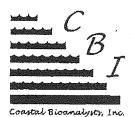
Sample Aging/Use/Pixtreatment								
CBI Sample I.D.	Collection Date/Time	Date(s)/Time(s) 1st Used in Tests	Date(s)/Time(s) Used in Renewals	Sample Adjustments				
PRIM0805-A	9/29/08 1240	9/30/08 1505, 1520	N/A	Aerated 2 min, filtered to remove indigenous organisms				

Project ID: PRIM0805

Client Sample ID: Doswell All American Truck Plaza Outfall 001

Permit No: VA0052906

Sample Period: 9/29/08 Dry Weather



Acute Test W	ater Qua	lity (Me	an/Std.	Dev.)		··· · · · · · · · · · · · · · · · · ·	organization	- p			- COMMUN	- GLOWNED
Test:		······································		a 2002.0			1		promel	as 2000 ()	
% Conc:	Cont.	6.5	13	25	50	100	Cont.	6.5	13	25 25 25	50	100
Temp.	25	25	25	25	25	25	25	25	25	25	25	
(°C)	0	0	0	0	0	0	0.6	0.6	0.6	0.6	0.6	25
D.O.	8.1	8.0	0.8	8.1	8.0	8.0	7.9	7.9	7.9	7.8	7.8	7.7
(mg/l)	0.1	0.2	0.2	0.1	0.2	0.2	0.3	0.3	0.3	0.3	0.4	0.5
pН	7.71	7.76	7.76	7.75	7.70	7.57	7.64	7.64	7.59	7.55	7.49	7.32
(S.U.)	0.15	0.13	0.12	0.10	0.11	0.20	0.14	0.17	0.20	0.23	0.49	0.10

Species-Method (Ref. Test Date)	Data Source	% Control Survival	48-h LC50	rganism Source: CBI 95% C.L./A.L. For LC50	RTT in Control?
C. dubia 2002.0	RTT	100	560	. 517-607	Yes
9/2/08-9/4/08)	CC	100	567	518-616	1 58
promelas 2000.0	RTT	100	978	909-1052	Yes
9/4/08-9/6/08)	CC	100	918	808-1027	162

Note: RTT = Reference Toxicant Test, CC = Control Chart

The results of analysis contained within this report relate only to the sample as received in the laboratory. This report shall not be reproduced except in full without written approval from the laboratory.

APPROVED:

Peter F. De Lisle, Ph.D Technical Director Date

GLOSSARY OF TERMS AND ABBREVIATIONS

A.L. (Acceptance Limits): The results of a given reference toxicant test are compared to the control chart mean value ± 2 standard deviations. These limits approximate the 95% probability limits for the "true" reference toxicant value.

C.L. (Confidence Limits): These are the probability limits, based on the data set and statistical model employed, that the "true value" lies within the limits specified. Typically limits are based on 95% or 99% probabilities.

Control chart: A cumulative summary chart of results from QC tests with reference toxicants. The results of a given reference toxicant test are compared to the control chart mean value and 95% Acceptance Limits (A.L.) (mean ± 2 standard deviations).

LC50: The concentration of sample or chemical, calculated from the data set using statistical models, causing a 50% reduction in test organism survival. The lower the LC50, the more toxic the chemical or sample. Units are same as test concentration units. Note: The LC50 value must always be associated with the duration of exposure. Thus 48-h LC50, 96-h LC50, etc. are calculated.

N/A: Not applicable. N/D: Not determined or measured.

NOAEC: No-observable-acute-effect-concentration. The highest concentration of sample or chemical in an acute test dilution series in which the test organisms exhibit no statistically significant reduction in the test end point (e.g. survival) compared to control organisms. Units are same as

Q.L.: Quantitation Limit. Level, concentration, or quantity of a target variable (analyte) that can be reported at a specified degree of confidence.

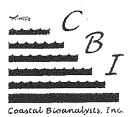
T.U.: Toxic units. Expresses the relative toxicity of an effluent in such a manner that the larger the toxic unit value the more toxic the effluent. T.U._{Ac} = 100/LC50. T.U._{Cor} = 100/NOEC. A dimensionless unit.

Page 2 of 2 Report Pages
Total No. Printouts/Bench Sheets Attached: 4

Project ID: PRIM0806 Client Sample ID: Doswell All American Truck Plaza Outfall 901 - 3 d

Permit No: VA0052906

Sample Period: 11/25/08 Wet Weather



Report of Analysis: Whole Effluent Toxicity (WET)

Mr. David Stoneman Primary Laboratories, Inc. 7423 Lee Davis Road Mechanicsville, VA 23111	Prepared By: Coastal Bioanalysts, Inc. 6400 Enterprise Court Gloucester, VA 23061 (804) 694-8285 www.coastalbio.com Contact: Peter F. De Lisle, Technical Director
--	--

Acute Test Results			and the second	
Species-Test Method	48-lı LC50	95% C.L.	T.U.Ac	NOAEC
C. dubia EPA 2002.0	>100	N/A	1.00	100
P. promelas EPA 2000.0	>100	N/A	1.00	100

Note: Details regarding test conduct and data analysis provided in attached bench sheets and printouts as applicable.

AcuteTest Biological Summa			Sample	Concentra	tion (%)		
Species-Method	Endpoint	Control	6.5	13	25	50	100
C. dubia EPA 2002.0	Survival (%):	100	100	100	100	100	100
P. promelas EPA 2000.0	Survival (%):	100	100	100	100	95	100

Test Information Species-Method	Start Date/Time End Date/Time	Organism Source	Hatch/Harvest Date/Time	Acclimation Temp.	Acclimation Water	Test Aerated?
C. dubia EPA 2002.0	11/26/08 1215 11/28/08 1230	CBI Stock	11/25/08 1545 11/26/08 0935	25° C	Mod. Hard Syn. FW	No
P. promelas EPA 2000.0	11/26/08 1200 11/28/08 1220	CBI Stock	11/19/08 1200 11/20/08 1200	25° C	Mod. Hard Syn. FW	No

Sample/Dilution Water Data	Acute Test			
		Dilution '		
Water Quality Parameter (Units)	Sample	Water		
Arrival Temperature (°C)	4	N/A		
Use Temperature (°C)	25	25		
Conductivity (µS/cm)	158	297		
pH (S.U.)	6.58	7.65		
Dissolved Oxygen (mg/l)	8.2	8.2		
Total Hardness (mg/l as CaCO ₃)	42	100		
Alkalinity (mg/l as CaCO ₃)	44	58		
Total Residual Chlorine (mg/l)	<q.l.< td=""><td>N/A</td></q.l.<>	N/A		
Ammonia (mg/l NH ₃ -N)	<1.0	N/A		

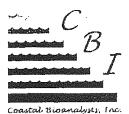
Sample Aging/Use	Pretreatment			
CBI Sample I.D.	Collection Date/Time	Date(s)/Time(s) 1 st Used in Tests	Date(s)/Time(s) Used in Renewals	Sample Adjustments
PRIM0806-A	11/25/08 1033	11/26/08 1200, 1215	N/A.	Aerated 2 min

Project ID: PRIM0806

Client Sample ID: Doswell All American Truck Plaza Outfall 901

Permit No: VA0052906

Sample Period: 11/25/08 Wet Weather



Acute Test Water Quality (Mean/Std. Dev.)												
Test:	T	<u> </u>	C. dubia	2002.0			P. promelas 2000.0					
% Conc:	Cont.	6.5	13	25	50	100	Cont.	6.5	1.3	25	50	100
	24	24	24	24	24	24	24	24	24	24	24	24
Temp. (°C)	0	0	0	0	0	0	0	0	0	0	0	0
D.O.	8.0	7.9	7.9	8.0	8.0	8.0	7.7	7.7	7.7	7.3	7.2	7.2
(mg/l)	0.3	0.4	0.3	0.3	0,3	0.3	0.6	0.7	0.7	1.1	1.1	1.2
Ha	7.76	7.74	7.74	7.70	7.54	7.20	7.59	7.55	7.49	7.37	7.17	6.76
(S.U.)	0.01	0.04	0.08	0.14	0.22	0.40	0.18	0.15	0.18	0.18	0.13	0.05

Acute Test QA/QC	Reference To	xicant: KCl Unit	s: mg/l Test O	rganism Source: CBI	Stock Cultures
Species-Method (Ref. Test Date)	Data Source	% Control Survival	48-h LC50	95% C.L./A.L. For LC50	RTT in Control?
C. dubia 2002.0	RTT.	100	530	484-579	Yes
(11/7/08-11/9/08)	CC	100	563	510-617	
P. promelas 2000.0	RTT	90	853	734-949	Yes
(11/7/08-11/9/08)	CC	100	923	827-1019	

Note: RTT = Reference Toxicant Test, CC = Control Chart

The results of analysis contained within this report relate only to the sample as received in the laboratory. This report shall not be reproduced except in full without written approval from the laboratory.

APPROVED:

GLOSSARY OF TERMS AND ABBREVIATIONS

Technical Director

A.L. (Acceptance Limits): The results of a given reference toxicant test are compared to the control chart mean value \pm 2 standard deviations. These limits approximate the 95% probability limits for the "true" reference toxicant value.

C.L. (Confidence Limits): These are the probability limits, based on the data set and statistical model employed, that the "true value" lies within the limits specified. Typically limits are based on 95% or 99% probabilities.

Control chart: A cumulative summary chart of results from QC tests with reference toxicants. The results of a given reference toxicant test are compared to the control chart mean value and 95% Acceptance Limits (A.L.) (mean ± 2 standard deviations).

LC50: The concentration of sample or chemical, calculated from the data set using statistical models, causing a 50% reduction in test organism survival. The lower the LC50, the more toxic the chemical or sample. Units are same as test concentration units. Note: The LC50 value must always be associated with the duration of exposure. Thus 48-h LC50, 96-h LC50, etc. are calculated.

N/A: Not applicable. N/D: Not determined or measured.

NOAEC: No observable-acute-effect-concentration. The highest concentration of sample or chemical in an acute test dilution series in which the test organisms exhibit no statistically significant reduction in the test end point (e.g. survival) compared to control organisms. Units are same as test concentration units.

Q.L.: Quantitation Limit. Level, concentration; or quantity of a target variable (analyte) that can be reported at a specified degree of confidence.

T.U.: Toxic units. Expresses the relative toxicity of an effluent is such a manner that the larger the toxic unit value the more toxic the effluent. T.U. At = 100/LC50, T.U. Cts = 100/NOEC. A dimensionless unit.

Page 2 of 2 Report Pages
Total No. Printouts/Bench Sheets Attached: 5



6400 Enterprise Court, Gloucester, VA 23061 PH: 804-694-8 , FAX: 804-695-1129 www.coastalbio.com

SAMPLE INFORMATION/CHAIN-OF-CUSTODY (FORM ETF2011D Rev. 10/10/07)

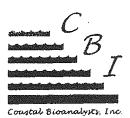
Lab Sample ID (Lab Use Only)	7	7 7 1	no	8	N.	- [A		
	Α Α	A A	Y	. у м	PH ·		W	ET
FACILITY INFOR	RMATION			1				
CLIENT/FACILITY NAME	4TP			& PHONE		ortee f	1. PC :033	Ther 3
NPDES PERMIT NO .						OUTFALL # OR LOCATION	4.	01
SAMPLE CHLORINATED?	NO DEC	MPLE CHLORINATED?	NO			NT UPON ARR CHLORINATIO		
TESTS E	SPECIES OR SPA METH#			(· dub.	ACUTE		CHRONIC 🗆
,	SPECIES OR EPA METH#			L'	2. 0x11/c	4 /41 ACUTE	Ø	CHRONIC □
OTHER TESTS:		, , , , , , , , , , , , , , , , , , ,			-15-01		······································	
,								
A SPECIFIC DILUTION PRIOR TESTING, WILL	SERIES MAY BE RE	QUIRED IN THE PENDICATED OTHER	RMIT. A DEF WISE. <u>IF IN D</u>	AULT SERIES OUBT PLEAS	OF 100, 50, 2 E ATTACH A	5, 12.5 AND 6.3%, COPY OF APPLIC	OR CONCE	ENTRATIONS USED IN MIT PAGES.
and the first bar to the first beautiful beaut		f .						
GRAB SAMPLE SAMPLE DATE	NEORMATION	SAMPLE	LIME			SAMPLE VOL	-18.40	A CONTRACTOR OF THE PROPERTY O
11125108		JAME E	, 5550,	M		i 1	DIO	
COMPOSITE SA	MPLE INFORM	MATION			•		<u> </u>	
COMPOSITE START DATE & TIME			<u> </u>	COMPOS DATE & T			**** * *	
TIME OR FLOW PROPORTIONAL	NUMBER SUBSAMP	IFS		L DL (ml) JBSAMPLES		TIME	MENT	
COMPOSITE INFORMATION	SET VOLU	ME		SET VOL		7707	TOTA VOLU	
FOR VARIABLE VOLUN			OMPOSITING		TTACH SAMP	LE AND FLOW INF		N ON SEPARATE SHEET
FIELD MEASURE	EMENTS							
DISCHARGE	DISCHARGE	SAMPLE		AMPLE		DATE/TIME		· INITIALS
TEMP (°C)	pH (S.U.)	TEMP (° C) TR	C (mg/l)	(e.g.	. 02/23/00 1835)		
8.8°	17.50 ^{SY}	8,8		Maje	11)25k	包 / 10:19	15M	mao
MEASUREMENTS MUS	T BE TAKEN WITHIN	1 15 MINUTES OF	SAMPLE OR L	AST SUBSAM	PLE COLLEC	TION!		,
COMMENTS:	·							
Marlee	00		•	2	~ . No	200	2. 10.	<u> 11/25/08</u>
(PRINTED NAM	(PRINTED NAME/AFFILIATION SAMPLER/ANALYST) (SIGNATURE) (DATE)							
REEIN	QUISHED BY:		DATIE	TIME		RE	CEINEDE	*
marco	a Park	in II	25/08	11.04	am 1	acken Bot	Z. 11/	25/08 11:24
	· ·							
SHIPPING METHOD: UPS FEDEX HAND DELIVERY OTHER								
CONDITION ON A	ARRIVAL: AC	CEPTABLE_	_ OTHER	`				
SAMPLE ARRIVA	L TEMP: (°C)	Ai	RRIVED O	N ICE? Y	E\$	NO		

Project ID: PRIM0807

Project ID: PRIM0807 Client Sample ID: Doswell All American Truck Plaza Outfall 901 - 4th Querty

Permit No: VA0052906

Sample Period: 12/11/08 Wet Weather



Report of Analysis: Whole Effluent Toxicity (WET)

Submitted To:	Prepared By:
Mr. David Stoneman	Coastal Bioanalysts, Inc.
Primary Laboratories, Inc.	6400 Enterprise Court
7423 Lee Davis Road	Gloucester, VA 23061
Mechanicsville, VA 23111	(804) 694-8285
	www.coastalbio.com
	Contact: Peter F. De Lisle, Technical Director

Acute Test Results	Large and Control of	The second se	7	
Species-Test Method	48-h LC50	95% C.L.	T.U.Ac	NOAEC
C. dubia EPA 2002.0	>100	N/A	1.00	100
P. promelas EPA 2000.0	>100	N/A	1.00	100

Note: Details regarding test conduct and data analysis provided in attached bench sheets and printouts as applicable.

AcuteTest Biological Summar			Sample (Concentra	tion (%)		
Species-Method	Endpoint	Control	6.5	13	25	50	100
C. dubia EPA 2002.0	Survival (%):	100	100	100	100	100	100
P. promelas EPA 2000.0	Survival (%):	100	100	100	100	100	100

Test Information	Start Date/Time	Organism	Hatch/Harvest	Acclimation	Acclimation	Test
Species-Method	End Date/Time	Source	Date/Time	Temp.	Water	Aerated?
C. dubia	12/12/08 1545	CBI	12/11/08 1730		Mod. Hard	
EPA 2002.0	12/14/08 1540	Stock	12/12/08 1045	25° C	Syn. FW	No
P. promelas	12/12/08 1535	CBI	12/3/08 0930		Mod. Hard	
EPA 2000.0	12/14/08 1525	Stock	12/4/08 0930	25° C	Syn. FW	No

Sample/Dilution Water Data	Acute Test		
		Dilution*	
Water Quality Parameter (Units)	Sample	Water	
Arrival Temperature (°C)	6	N/A	
Use Temperature (°C)	25	25	
Conductivity (µS/cm)	169	296	
pH (S.U.)	6.47	7.67	
Dissolved Oxygen (mg/l)	8.2	8.2	
Total Hardness (mg/l as CaCO ₃)	54	96	
Alkalinity (mg/l as CaCO ₃)	34	57	
Total Residual Chlorine (mg/l)	<q.l.< td=""><td>N/A</td></q.l.<>	N/A	
Ammonia (mg/l NH ₃ -N)	<1.0	N/A	

Sample Aging/Usc/Pretreatment		8,7	Miss of	The second second
	Collection		Datc(s)/Time(s)	
CBI Sample I.D.	Date/Time	1 st Used in Tests	Used in Renewals	Sample Adjustments
PRIM0807-A	12/11/08 1035	12/12/08 1535, 1545	N/A	Aerated I min

Propert ID: PRIM0807

Chem Sample ID: Doswell All American Truck Plaza Outfall 901

Permit No: VA0052906

Sample Period: 12/11/08 Wet Weather



Acute Test W	ater Qua	lity (Me	an/Std.	Dev.)		No Sec.	A TAIL	in The				
Test:]		C. dubi	2002.0				P	. promel	as 2000.0)	
% Conc:	Cont.	6.5	13	25	50	100	Cont.	6.5	13	25	50	100
Temp.	25	25	25	25	25	25	25	25	25	25	25	25
(°C)	0	0	0	0	0	0	0	0	0	0	0	0
D.O.	8.0	8.0	8.0	7.9	7.9	7.9	7.7	7.7	7.4	7.2	7.3	7.3
(mg/l)	0.2	0.3	0.3	0.3	0.3	0.3	0.6	0.6	0.7	0.9	0.9	1.0
pН	7.68	7.65	7,57	7.50	7.29	6.97	7.56	7.48	7.42	7.30	7.09	6.76
(S.U.)	0.05	0.07	0.16	0.24	0.36	0.42	0.10	0.10	0.07	0.11	0.18	0.24

Acute Test QA/QC	Reference Tox	icant: KCl Unit	s: mg/l (Test:O	rganism Source: CBI	Stock Cultures
Species-Method (Ref. Test Date)	Data Source	% Control Survival	48-h LC50	95% C.L./A.L. For LC50	RTT in Control?
C. dubia 2002.0	RTT	100	530	484-579	Yes
(11/7/08-11/9/08)	CC	. 100	563	510-617	
P. promelas 2000.0	RTT	90	853	734-949	Yes
(11/7/08-11/9/08)	CC	100	923	827-1019	

Note: RTT = Reference Toxicant Test, CC = Control Chart

The results of analysis contained within this report relate only to the sample as received in the laboratory. This report shall not be reproduced except in full without written approval from the laboratory.

APPROVED

Peter F. De Lisle, Ph.D.

Technical Director

12/14/03

Date

GLOSSARY OF TERMS AND ABBREVIATIONS

A.L. (Acceptance Limits): The results of a given reference toxicant test are compared to the control chart mean value ± 2 standard deviations. These limits approximate the 95% probability limits for the "true" reference toxicant value.

C.L. (Confidence Limits): These are the probability limits, based on the data set and statistical model employed, that the "true value" lies within the limits specified. Typically limits are based on 95% or 99% probabilities.

Control chart: A cumulative summary chart of results from QC tests with reference toxicants. The results of a given reference toxicant test are compared to the control chart mean value and 95% Acceptance Limits (A.L.) (mean ± 2 standard deviations).

LC50: The concentration of sample or chemical, calculated from the data set using statistical models, causing a 50% reduction in test organism survival. The lower the LC50, the more toxic the chemical or sample. Units are same as test concentration units. Note: The LC50 value must always be associated with the duration of exposure. Thus 48-h LC50, 96-h LC50, etc. are calculated.

N/A: Not applicable. N/D: Not determined or measured.

NOAEC: No-observable-acute-effect-concentration. The highest concentration of sample or chemical in an acute test dilution series in which the test organisms exhibit no statistically significant reduction in the test end point (e.g. survival) compared to control organisms. Units are same as test concentration units.

Q.L.: Quantitation Limit. Level, concentration, or quantity of a target variable (analyte) that can be reported at a specified degree of confidence.

T.U.: Toxic units. Expresses the relative toxicity of an effluent in such a manner that the larger the toxic unit value the more toxic the effluent, T.U., $r_0 = 100/\text{NOEC}$. A dimensionless unit.

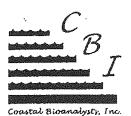
Page 2 of 2 Report Pages
Total No. Printonts/Bench Sheets Attached: 4

Project ID: PRIM0808

Client Sample ID: Doswell All American Truck Plaza Outfall 001 - 4th Quarter

Permit No: VA0052906

Sample Period: 12/30/08 Dry Weather



Report of Analysis: Whole Effluent Toxicity (WET)

Submitted To:	Prepared By:
Mr. David Stoneman	Coastal Bioanalysts, Inc.
Primary Laboratories, Inc.	6400 Enterprise Court
7423 Lee Davis Road	Gloucester, VA 23061
Mechanicsville, VA 23111	(804) 694-8285
, , , , , , , , , , , , , , , , , , , ,	www.coastalbio.com
	Contact: Peter F. De Lisle, Technical Director

Acute Test Results	· " 。		150 P. 1816	
Species-Test Method	48-h LC50	95% C.L.	T.U. _{Ac}	NOAEC
C. dubia EPA 2002.0	>100	N/A	1.00	100
P. promelas EPA 2000.0	>100	N/A	1.00	100

Note: Details regarding test conduct and data analysis provided in attached bench sheets and printouts as applicable.

AcuteTest Biological Summar			Sample	Concentra	tion (%)		
Species-Method Endpoint		Control	6.5	13	25	50	100
C. dubia EPA 2002.0	Survival (%):	100	100	100	85	100	100
P. promelas EPA 2000.0	Survival (%):	100	100	100	100	100	100

Test Information	Start Date/Time	Organism	Hatch/Harvest	Acclimation	Acclimation	Test
Species-Method	End Date/Time	Source	Date/Time	Temp.	Water	Aerated?
C. dubia	12/31/08 1445	CBI	12/30/08 1525		Mod. Hard	
EPA 2002.0	1/2/09 1445	Stock	12/31/08 1100	25° C	Syn. FW	No
P. promelas	12/31/08 1430	CBI	12/18/08 1130		Mod. Hard	
EPA 2000.0	1/2/09 1430	Stock	12/19/08 1130	25° C	Syn. FW	No

Sample/Dilution Water Data	Acute Test		
		Dilution*	
Water Quality Parameter (Units)	Sample	Water	
Arrival Temperature (°C)	2	N/A	
Use Temperature (°C)	24	25	
Conductivity (µS/cm)	273	300	
pH (S.U.)	6.55	7.59	
Dissolved Oxygen (mg/l)	7.8	8.2	
Total Hardness (mg/l as CaCO ₃)	78	92	
Alkalinity (mg/l as CaCO ₃)	46	60	
Total Residual Chlorine (mg/l)	<q.l.< td=""><td>N/A</td></q.l.<>	N/A	
Ammonia (mg/l NH ₃ -N)	1.1	N/A	

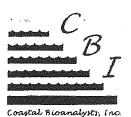
Sample Aging/Use/Pretreatment							
CBI Sample L.D.	Collection Date/Time	Date(s)/Time(s) 1st Used in Tests	Date(s)/Time(s) Used in Renewals	Sample Adjustments			
PRIM0808-A	12/30/08 1040	12/31/08 1430, 1445	N/A	N/A			

Project ID: PRIM0808

Client Sample ID: Doswell All American Truck Plaza Outfall 001

Permit No: VA0052906

Sample Period: 12/30/08 Dry Weather



Acute Test W	ater Qua	lity (Me	an/Std. l	Dev:)		- 15	gist.	4 gt. 14 .				
Test:	C. dubia 2002.0				P. promelas 2000.0							
% Conc:	Cont.	6.5	13	25	50	100	Cont.	6.5	13	25	50	100
Temp.	25	25	25	25	25	25	25	25	25	25	25	25
(°C)	0	0	0	0	0	0	0	0	0	0	0	0
D.O.	8.0	8.0	8.0	7.9	7.8	7.8	7.2	7.5	7.1	7.2	7.2	6.9
(mg/l)	0.3	0.3	0.3	0.2	0.2	0.1	0.9	0.6	1.0	0.8	0.7	0.8
pН	7.61	7.57	7.50	7.41	7.25	6.99	7.41	7.34	7.24	7.14	7.00	6.69
(S.U.)	0.15	0.06	0.04	0.17	0.29	0.51	0.35	0.27	0.23	0.12	0.12	0.27

Acute Test QA/QC	Reference To	xicant: KCl ₅ Unit	s:mg/l Test/O	rganism Source: CBI	Stock Cultures
Species-Method (Ref. Test Date)	Data Source	% Control Survival	48-h LC50	95% C.L./A.L. For LC50	RTT in Control?
C. dubia 2002.0	RTT	100	560	517-607	Yes
(12/19/08-12/21/08)	CC	100	560	501-612	
P. promelas 2000,0	RTT	90	870	765-956	Yes
(12/19/08-12/21/08)	CC	100	919	819-1020	

Note: RTT = Reference Toxicant Test, CC = Control Chart

The results of analysis contained within this report relate only to the sample as received in the laboratory. This report shall not be reproduced except in full without written approval from the laboratory.

APPROVED:

Peter F. De Lisle, Ph.D.

Technical Director

1/5/09 Date

GLOSSARY OF TERMS AND ABBREVIATIONS

A.L. (Acceptance Limits): The results of a given reference toxicant test are compared to the control chart mean value \pm 2 standard deviations. These limits approximate the 95% probability limits for the "true" reference toxicant value.

C.L. (Confidence Limits): These are the probability limits, based on the data set and statistical model employed, that the "true value" lies within the limits specified. Typically limits are based on 95% or 99% probabilities.

Control chart: A cumulative summary chart of results from QC tests with reference toxicants. The results of a given reference toxicant test are compared to the control chart mean value and 95% Acceptance Limits (A.L.) (mean ± 2 standard deviations).

LC50: The concentration of sample or chemical, calculated from the data set using statistical models, causing a 50% reduction in test organism survival. The lower the LC50, the more toxic the chemical or sample. Units are same as test concentration units. Note: The LC50 value must always be associated with the duration of exposure. Thus 48-h LC50, 96-h LC50, etc. are calculated.

N/A: Not applicable. N/D: Not determined or measured.

NOAEC: No-observable-acute-effect-concentration. The highest concentration of sample or chemical in an acute test dilution series in which the test organisms exhibit no statistically significant reduction in the test end point (e.g. survival) compared to control organisms. Units are same as test concentration units.

Q.L.: Quantitation Limit. Level, concentration, or quantity of a target variable (analyte) that can be reported at a specified degree of confidence.

T.U.: Toxic units. Expresses the relative toxicity of an effluent in such a manner that the larger the toxic unit value the more toxic the effluent. T.U. $_{Ac} = 100/LC50$. T.U. $_{Or} = 100/NOEC$. A dimensionless unit.

Page 2 of 2 Report Pages
Total No. Printouts/Bench Sheets Attached: 5

Public Notice - Environmental Permit

PURPOSE OF NOTICE: To seek public comment on a draft permit from the Department of Environmental Quality that will allow the release of treated industrial wastewater and stormwater into a water body in Hanover County, Virginia.

PUBLIC COMMENT PERIOD: XXX, 2013 to XXX, 2013

PERMIT NAME: Virginia Pollutant Discharge Elimination System Permit – Industrial Wastewater and Stormwater issued by DEQ, under the authority of the State Water Control Board

APPLICANT NAME, ADDRESS AND PERMIT NUMBER: Mr. Gurdip Singh, PO Box 37, Doswell, VA 23047, VA0052906

NAME AND ADDRESS OF FACILITY: Doswell Truck Stop LLC, 10222 Kings Dominion Blvd, Doswell, VA 23047

PROJECT DESCRIPTION: Mr. Gurdip Singh has applied for a reissuance of a permit for the private Doswell Truck Stop LLC. The applicant proposes to release treated industrial wastewater and storm water at a rate of 0.004 million gallons per day into a water body. The facility proposes to release the treated industrial wastewaters and storm water in the North Anna River, UT in Hanover County in the York River watershed. A watershed is the land area drained by a river and its incoming streams. The permit will limit the following pollutants to amounts that protect water quality: Flow, pH, Total Petroleum Hydrocarbons- Diesel Range Organics (TPH-DRO), Naphthalene, Total Suspended Solids (TSS), Total Recoverable Nickel, Total Residual Chlorine, Dissolved Zinc, Total Hardness, and Dissolved Copper.

HOW TO COMMENT AND/OR REQUEST A PUBLIC HEARING: DEQ accepts comments and requests for public hearing by hand-delivery, e-mail, fax or postal mail. All comments and requests must be in writing and be received by DEQ during the comment period. Submittals must include the names, mailing addresses and telephone numbers of the commenter/requester and of all persons represented by the commenter/requester. A request for public hearing must also include: 1) The reason why a public hearing is requested. 2) A brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requester, including how and to what extent such interest would be directly and adversely affected by the permit. 3) Specific references, where possible, to terms and conditions of the permit with suggested revisions. A public hearing may be held, including another comment period, if public response is significant, based on individual requests for a public hearing, and there are substantial, disputed issues relevant to the permit.

CONTACT FOR PUBLIC COMMENTS, DOCUMENT REQUESTS AND ADDITIONAL INFORMATION: The public may review the draft permit and application at the DEQ-Piedmont Regional Office by appointment, or may request electronic copies of the draft permit and fact sheet.

Name: Emilee Adamson

Address: DEQ-Piedmont Regional Office, 4949-A Cox Rd, Glen Allen, VA 23060

Web Project ID: WEB000000799

Client Project Number: VA0052906

PROJECT INFORMATION

TITLE: Doswell Truck Stop

DESCRIPTION: This is a reissuance of an existing industrial minor permit. There is no mixing zone associated with this discharge.

Chlorination and/or UV disinfection is not utilized because the permit is industrial in nature.

EXISTING SITE CONDITIONS: Storm water discharge to an unnamed tributary to the North Anna River.

QUADRANGLES: Ashland

COUNTIES: Hanover

Latitude/Longitude (DMS): 37°50′56.6672″N / 77°26′50.8670″W Attachment 11

Acreage: 14 acres

Comments:

REQUESTOR INFORMATION

Tier Level: Tier II Priority: N

Tax D:

Contact Name: Susan Mackert

Company Name: Virginia DEQ

Address: 13901 Crown Court City: Woodbridge

State: VA

Zip: 20112

Phone: (703) 583-3853

Fax: (703) 583-3821

Page 1 of 4

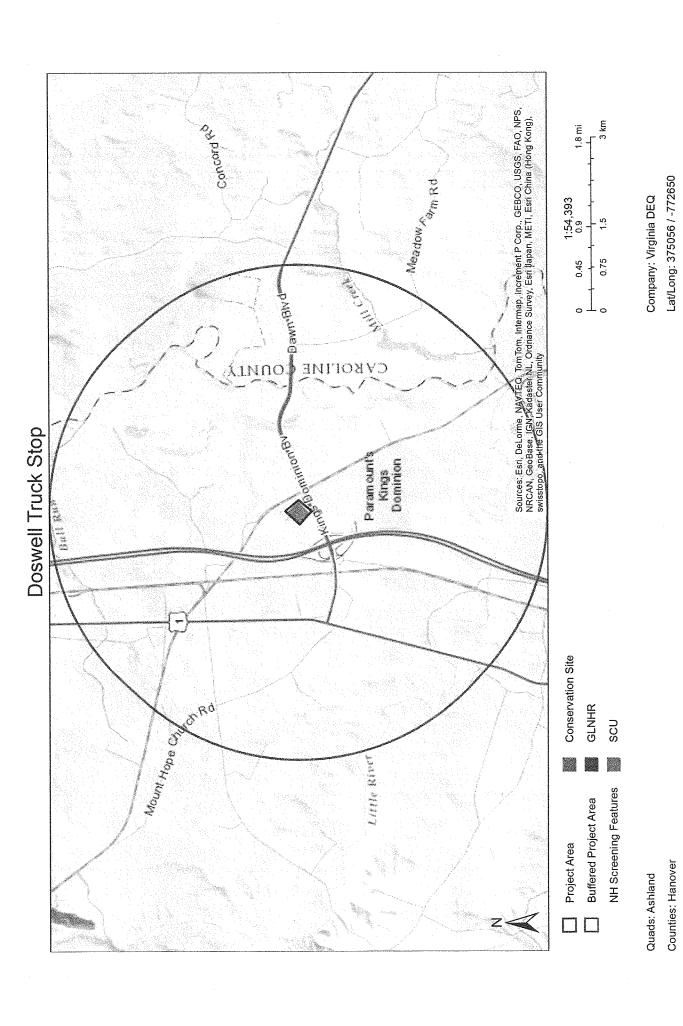
Virginia Department of Conservation and Recreation, Natural Heritage Program

Report Created: 8/5/2013

Email: susan.mackert@deq.virginia.gov

	Preci	E0	
Listed Species Presence	o_	জ	
les:			
E S			
8	80		
9	Ō.	ക	
တ်	Last Obs	蒽	
(eq			
9	<u>О</u> Ш	峑	
	m.	器	
<u>ə</u>			
Acreage	State	tus	
Aci	हिं	Sta	
	Fed	an	
Brank	цщ	Sta	
m .			
	ž		
	S		
	(f)		
	GRANK SRANK		
	Ϋ́		
ed/	O		
Site Type			
iš	ø		
	аше		
	Scientific Na		
	cie		
	S		
3 =	o,		
Š	ame		
5	Z		92
0 0	9		I
=	E		ď
	ပ		Ė
			ğ
Ē	စ္		Ē
, T	lan		Ę
-	٩		8
Ξ	Broup		3
2	۳		3
. 6			ď
<u>ज</u>			Š
	O		e ii
serva I.at.⊟	elmi.		
186 [1]	Z		E
82	Š		<u> </u>
	- continue		

Intersecting Predictive Models Predictive Model Results





COMMONWEALTH of VIRGINIA

DEPARTMENT OF CONSERVATION AND RECREATION

natural heritage resources in the vicinity of the area indicated for this project. Natural heritage resources are defined as the habitat of rare, threatened, or endangered The project mapped as part of this report has been searched against the Department of Conservation and Recreation's Biotics Data System for occurrences of plant and animal species, unique or exemplary natural communities, and significant geologic formations.

According to the information currently in Biotics, natural heritage resources have not been documented within two miles of the identified project boundaries. In addition, the project area does not intersect any of the predictive models identifying potential habitat for natural heritage resources.

Conservation and Recreation (DCR), DCR represents VDACS in comments regarding potential impacts on state-listed threatened and endangered plant and insect Under a Memorandum of Agreement established between the Virginia Department of Agriculture and Consumer Services (VDACS) and the Virginia Department of species. The current activity will not affect any documented state-listed plants or insects.

updated information is continually added to Biotics. Please revisit this website or contact DCR for an update on this natural heritage information if a significant amount Any absence of data may indicate that the project area has not been surveyed, rather than confirm that the area lacks additional natural heritage resources. New and of time passes (DCR recommends no more than one year) before it is utilized.

The Virginia Department of Game and Inland Fisheries maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters, that may contain information not documented in the Natural Heritage Data Explorer. Their database may be accessed from http://vafwis.org/fwis/ or contact Gladys Cason (804-367-0909 or Gladys.Cason@dgif.virginia.gov). Thank you for submitting your project to the Virginia Department of Conservation and Recreation's Natural Heritage Data Explorer Web Service. Should you have any questions or concerns about this report, the Data Explorer, or other Virginia Natural Heritage Program services, please contact the Natural Heritage Project Review Unit at 804-371-2708.